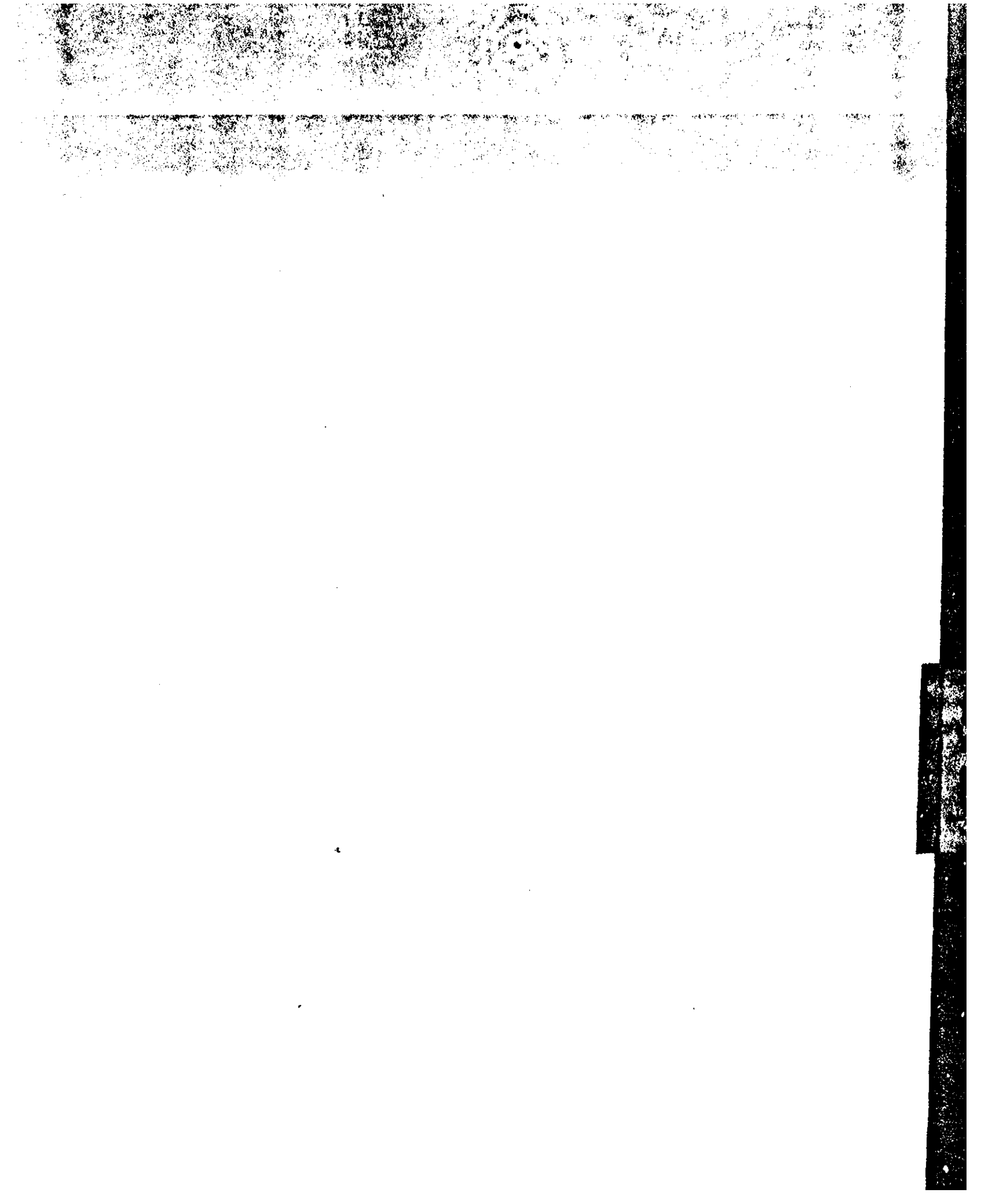


SL II MC-1097/1
Time: 02:01 CDT 24:07:01 GMT
6/17/73

CC Honeysuckle contact, Houston contact.
PAO Good morning, this is Skylab Control at 7 hours 1 minute Greenwich mean time, on manned mission day number 24. Skylab soon will be within acquisition and range of the Honeysuckle, Australia station. And we'll be sending a wake up call to the crew. The silver team of flight controllers lead by Flight Director Neil Hutchinson, is on duty at this time. The spacecraft communicator is astronaut Henry Hartsfield. We'll stand by for the wake up call.
CC Skylab, Houston. Good morning.
CDR Morning, Houston.
CC Well, did you get a good night's rest?
CDR You bet cha.
CC We've got about 4-1/2 minutes here left through Honeysuckle.
CDR Okay.
CC Skylab, Houston, 1 minute to LOS, Hawaii at 24.
PAO This is Skylab Control. The Skylab space station has passed out of range of the Honeysuckle station now. Next station to acquire wil. be Hawaii in 14 minutes. At 7 hours 10 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

PAO This is Skylab Control at 7 hours 22 minutes Greenwich mean time. Skylab coming up within acquisition at Hawaii now. We'll stand by for conversation there.

CC Skylab, Houston through Hawaii 6-1/2 minutes.

PLT Roger, Henry. Hey, I just tried to a wind up the orbital slider and it shows that our daytime pass is over Europe. I think something's wrong Will you have somebody check that first ascending node, please?

CC Wilco.

CC Skylab, Houston, we blew that one. That's a descending node. We'll get you some new numbers.

CC Skylab, Houston about 30 seconds from LOS, Goldstone at 32.

PLT Roger.

PAO This is Skylab Control at 7 hours 32 minutes Greenwich mean time. We've had loss of signal at Hawaii, but Goldstone will acquire momentarily. We'll continue to stand by.

CC Skylab, Houston through Goldstone 9 minutes.

PLT Hi.

CC Skylab, Houston. I got that slider update for you now.

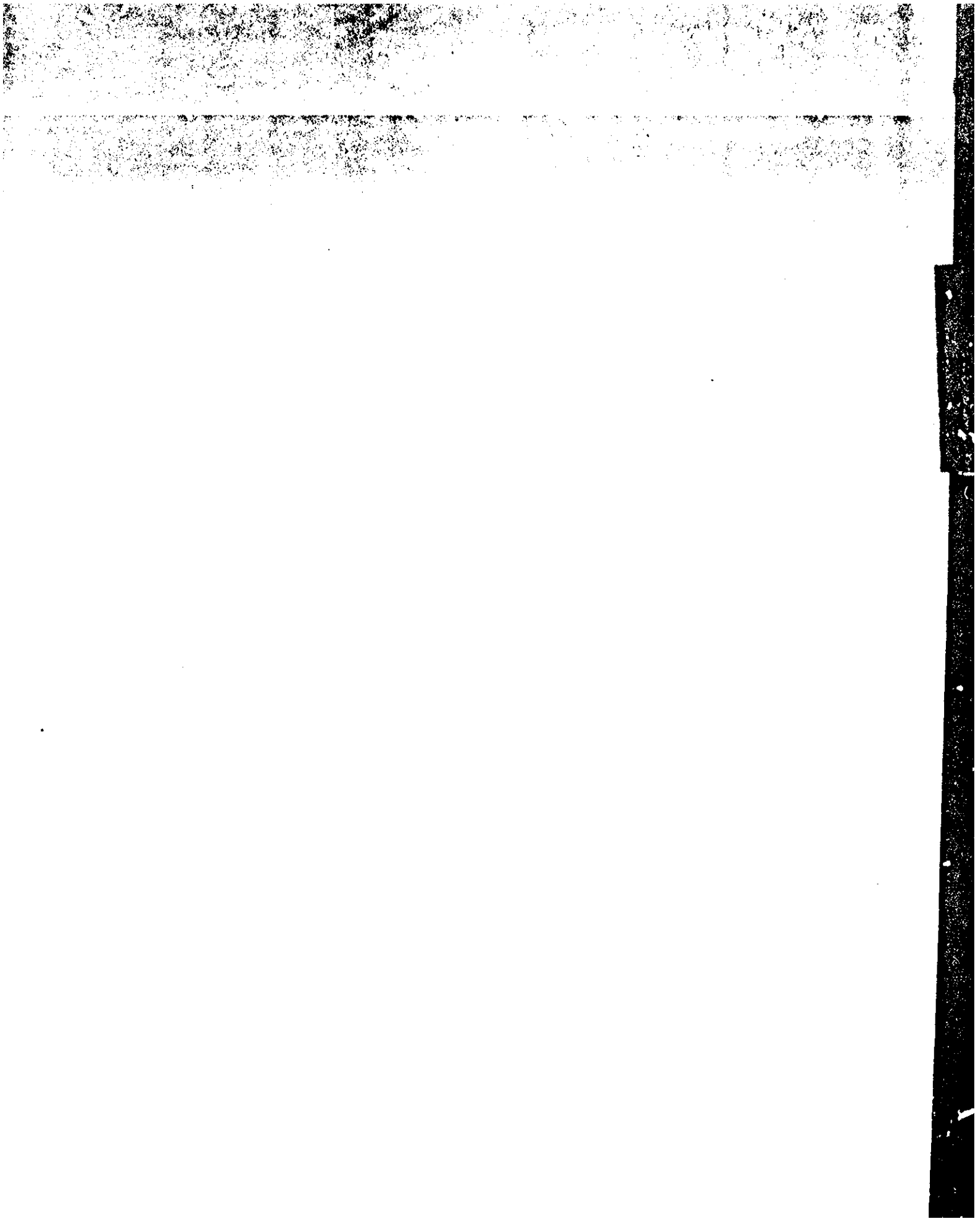
SPT Okay.

CC Okay, it should be 159.4 west at 72253, and the other two are correct.

SPT Okay, that's 159.4 west and 072253.

CC That's affirmative.

END OF TAPE



	RPT	Okay, that's 159.4 west and 072253.
	CC	That's affirmative.
	CDR	Listen Houston, Hank, is it 2:00 in the morning?
	CC	You had better believe.
	CDR	We just passed over down town San Francisco loud and clear midnight on Saturday night, right?
	CC	Right.
	CDR	When it's really clear out there, you can see both bridges. It's a fantastic sight if you see it at night. You can see LA and San Francisco and super.
	CC	Skylab, Houston, 1 minute to LOS, Bermuda at 46.
	PAO	This is Skylab Control at 7 hours 42 minutes Greenwich mean time. There is a short break between Goldstone and Bermuda acquisition. We'll continue to stand by during the short LOS. We should have acquisition at Bermuda in about 2 minutes.

END OF TAPE

Mission Day Wrong

CC Skylab Houston through Bermuda 6 minutes.
CC Skylab, Houston. For the CDR or PLT, sometime this morning when you get a break, we'd like for one of you to run up to the S073, and change the field of view to 1. We're looking a little more lightly with respect to the (garble)
CDR That's done.
CC Thank you sir.
CC Skylab, Houston. I've got one flight plan change and an update to the PLT's photo pad, and to the TV15 mod pad whenever it's convenient.
PLT Stand by we're scrambling.
CC No rush, just whenever you're ready give me a call.
PLT Yeah, okay. Go ahead with the change - to which plans for PLT? The (garble) or photo pad?
CC The photo pad. We're changing the flight plan. We're deleting S073 ST-3 and that changes your pad. All we want to do is delete the lines that say, "Leave DAC on until S073 ST-3 is completed."
PLT Okay.
CC And I just gave you the flight plan change, which is to delete that S073 ST-3 at 11:00.
PLT Roger.
PLT Go ahead with TV 15.
CC Okay, we've got the mission day wrong. Down on the last line, it says, "mission day 22," it should be 24 today.
PLT Great.
CC Skylab Houston. About 30 seconds from LOS, Canary at 55.
PAO This is Skylab Control at 7 hours 52 minutes Greenwich mean time. Bermuda has had loss of signal. And the station at the Canary Island will acquire in about 2 minutes. We'll continue to stay up for that pass at Canaries. During the pass over the United States, Skylab Commander, Pete Conrad reported he could see both the Bay Bridge and the Golden Gate Bridge at San Francisco. He called it a fantastic sight at night. Earlier he had reported that the crew got a good night's rest last night. We'll stand by for acquisition at Canaries.

END OF TAPE

CC Skylab, Houston through Canaries for 9-1/2 minutes.

CC Skylab, Houston, for info we'll be commanding the proton spec OFF.

PLT Roger.

CC Skylab, Houston 30 seconds to LOS, Honeysuckle at 40.

PLT Roger.

PAO This is Skylab Control at 8 hours 5 minutes Greenwich mean time. Canaries has had loss of signal. Next station to acquire will be Honeysuckle in 34 minutes. Skylab 2 crew scheduled to do a TRIM burn this morning. That maneuver designed to put the Skylab workshop back on the original ground track by the time the Skylab 3 crew arrives at the workshop. This maneuver will be performed with the service module reaction control system. Ignition time 8 hours 59 minutes 27 seconds Greenwich mean time. It's a two-jet burn. We'll use two of the RCS quads on the service module. Duration of the burn is 9 seconds. The Delta-V, or change in velocity as a result of maneuver, three-tenths of a foot per second, and that will be a posigrade maneuver. All three crewmen have Apollo telescope mount operation interspersed in their schedules throughout the day. Today's flight plan schedules a total of 5 hours and 42 minutes of Apollo telescope mount operations. In addition, the Commander has some S019 operations, the ultraviolet steller astronomy experiment, for which Scientist Astronaut, Carl Henize of the Johnson Space Center is principle investigator. And he has T027 operations scheduled - the ATM contamination measurement. The Science Pilot, Joe Kerwin, in addition to ATM operations has some time scheduled to calibrate the M074, the specimen mass measurement device. He'll also be the observer for a M131 experiment, the human vestibular function. Pilot Paul Weitz will be the subject for that experiment And then following lunch, Kerwin will be the subject for M131 and Weitz will be the observer. Kerwin will also be the observer for M092 and M171, the lower body negative pressure and the metabollic activity experiments while Paul Weitz is the subject. Paul Weitz is also scheduled for some SC19 operations today - -

END OF TAPE

SL-II MC-1102/1
Time: 03:10 GBT 24:08:10 GMT
6/17/73

PAO Paul Weitz is also scheduled for some S019 operations today. And Joe Kerwin is scheduled for some additional KD31 experiments. That's the student experiment on bacteria spores. Skylab is over Africa now, about 29-1/2 minutes away from acquisition at Honeysuckle Australia. We'll come back up just prior to acquisition at Honeysuckle. At 8 hours 10 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

PAO This is Skylab Control at 8 hours 38 minutes Greenwich mean time. We're standing by for acquisition at Honeysuckle.

CC Skylab, Houston through Honeysuckle for 9 minutes.

PLT Roger.

CC Skylab, Houston. I've got a couple of things for the SPT if it's convenient to listen right now.

SPT Go ahead.

CC Okay. During the night on the S052 we noticed the temperatures to be decreasing and we commanded the thermal system ON and temps are increasing. When you get to the console we'd like for you to verify on the WLC that the thermal switch is ON, and report the status about how you find it. And also got your SAP update. Filament's 79 at 040.2, 81 and 84 have almost - I won't give you those coordinates you've probably already got them. They've almost totally disappeared since the two bright M3 flare in active region 37 yesterday. We had 7 subflares without X-rays in active regions 37 and 41 on that big complex there, between 18:00 yesterday and 04:00 today. The subflares without X-rays have also been noted in active regions 40, 42, and 43. And there's a new active region 45 at 080.7 with a small bi-polar plage.

SPT Okay, now let me ask you guys something, Houston. You sent us a lot of ATM messages last night, most of which contradict each other. I got one nice little message telling me how to use the flare prep for unattended cue card from which I inferred that I was - that I should have used it yesterday and taken lots of pictures of that flare and we came around the Horn and saw. I'm also told on the solar activity pad that B2 A and B are saving their film for flares, and on the ATM schedule pad that B2A is to have flare ENABLED on it most of the passes. Then I got a message that says B2A and B will not be initiated in the flare mode, and I'm not quite sure what you guys are thinking.

CC Okay, let me - let us think that over a bit, Joe.

SPT Okay.

SPT I guess the message about the unattended cue card did not answer my question which was, do the PIs make it scientifically valuable and interesting to them to get data on flare fall when they haven't had the rise. We know how to get the cue card.

CC Copy.

SPT Houston, SPT.

CC Go ahead.

SPT There's another aspect of that B2 and B

message. It says that the cameras should no longer be used after four and sixteen frames remaining respectively, I believe it is. Understand that we operate those cameras per the schedule pad and I assume that the PIs will not schedule more data taking, then will run the film close to those numbers plus a reasonable pad, because if they will know, our frames remaing indicators onboard are not very reliable.

CC Roger, copy.

END OF TAPE

CC Joe, in answer to your question about the flares, the answer is if we don't see the rise, we don't want to see the fall.

SPT Okay. How about 82A and B now? Am I to not use them for any more flares for the rest of the mission, or follow the schedule pad?

SPT Or am I to use them in other than the flare mode?

CC Okay, what we want you to do there is use the 82A and B sprocket called for in the pad. However, when you get down to frames remaining 4 and 16, we want to discontinue using 82A and B.

SPT So right now, we may use 82A and B for flares. Is that correct?

CC That is affirmative.

SPT Okay.

CC And Skylab Houston. There was a question the other night about the Delta P light on the holding tank when you were dumping that thing. Or I guess it was on the condensate tank. And we've looked at what you said, and looked at the data, and we think that all your indications were proper as best we could determine.

CDR What does that mean? It means we got a leak somewhere and we don't know where it is still.

CC Well, I guess if we're reading what you said correctly, the water went into the holding tank, if we understand it right, the two cups of water you are concerned about. And we think the Delta P light you're getting there is the same old bugaboo we've had all along is a leaky QD.

CDR No, I disagree with you Hank. It didn't go into any water holding tank. The holding tank was disconnected, we're talking about just the 216 panel itself. It should hold its own Delta P, and it goes from a Delta P of 4 to about .5 in that 15 minutes when it's running by itself. It's got a leak in it somewhere, and it is not in one of those QDs.

PLT I tell you why we think it is not a QD, Hank. Because the first time - I agree with you. I don't know where else the pressure is leaking into the system. We decided the first time it was a leaky QD in that aft airlock (garble). Yesterday we tried disconnecting it and we disconnected the line and the holding tank so that other (garble) that was also a leaky QD. And for what it's worth, I then put the duct cover to plug in that QD, and we dumped it plugged the vacuum on it and it - -

CC We are about LOS.

SL-II MC-1104/2
Time: 03:45 CDT 24:08:45 GMT
6/17/73

PLT - -wherever the little leak was it was still there.

CC We'll be coming up on Hawaii on the hour.

PAO This is Skylab Control, at 8 hours 49 minutes Greenwich mean time. Skylab passed beyond range of Honeysuckle now. Next station to acquire will be Hawaii in about 10 minutes. In the Control Center, Flight Director Milton Windler and his maroon team of flight controllers are preparing to relieve Flight Director Neil Hutchinson and the silver team. We'll come back up just prior to Hawaii acquisition. At 8 hours 50 minutes, this is Skylab Control.

END OF TAPE

Good Burn

PAO This is Skylab Control at 8 hours 57 minutes Greenwich mean time. Skylab is about 2 minutes away from acquisition at Hawaii. The crew should perform this trim burn just prior to acquisition, mission time 8 hours 59 minutes 27 seconds. It is designed to put the Skylab workshop back on the original ground track by the time the Skylab III crew arrives at the workshop. A very short duration burn, 9 seconds, the service module reaction control system. Two jets posigrade burn, 3/10 of a second, 3/10 of a foot per second. We'll stand by for acquisition at Hawaii.

CC Skylab Houston. AOS Hawaii 9 minutes.

CDR Good morning.

CC Good morning.

CDR Roger Houston. The burn went on time.

CC Very good. Thank you, Pete.

CDR I wondered why we got S019 today?

CC Oh, no this is not Carl.

CDR Oh, I sound like Carl.

CC Crip finally decided to come back to work.

CDR I wondered what happened to you.

PAO The Capcom is astronaut Bob Crippen.

PAO Telemetry indications are that the burn was a good one.

PAO This is Skylab Control. We're estimating a change of shift briefing with Flight Director Neil Hutchinson for 4:15 a.m. central daylight time in the briefing room at the Johnson Space Center News Center. Change of shift briefing 4:15 a.m.

CDR I can't imagine that I'm standing up here photographing these locker doors for these guys on TV so they can understand what we did. It's hard for me to understand that.

CC Roger.

CDR Either B channel is unreadable or we're not saying it right.

CC Okay. I'm sure that they did get the information on B channel but somebody apparently requested the TV just for visual confirmation.

CDR I understand the (garble)

CC I don't understand it either.

SPT Houston, SPT.

CC Go SPT.

SPT I forgot to tell Hank. We got (garble) about 82A and flares and stuff, I forgot to tell him that the 82 thermal switch is and was in the prime position, when I came on console.

CC Roger, copy.
SPT Hardheaded.
CC Rog.
SPT And on this 82A and B flare business, I still don't understand if they wanted us to not use flare mode after 4 and 16 frames remaining, but the two experiments take 24 and 48 photographs respectively during a flare. Are they sure they don't want me to stop using the flare mode at some higher number? Or is our frames remaining (garble) wrong?
CC Well, the way you read that was correct. We'll reverify if that's what they want though.
SPT Because if we wait that long they're not going to have their calibration film left. They have to risk it if they want to run.
CC Okay. I think the intent is that they really want those films for calibration, but we'll reverify that.
SPT Well you see what I mean, Crip. If a flare happens when 82A has 10 frames remaining, and I go into flare mode, it's all wiped out.
CC Roger, understand.

END OF TAPE

CC Skylab, Houston 1 minute to LOS. Goldstone at 09:12, 09:12.
SPT (Garble)
CC We'll try to have an answer for you on your 82A and B there, Joe.
SPT We won't get any flares until then.
CC Promise.
SPT Roger, copy.
PAO This is Skylab Control at 9 hours 9 minutes Greenwich mean time. Hawaii's had loss of signal. Goldstone will acquire in about a minute and a half. We'll continue to stand by.
CC Skylab, Houston AOS Goldstone 6 minutes.
SPT Hello.
SPT Hey, Crip, ask SO73 if I can terminate now. It's not running on the program right now is it, or is it?
CC Checking.
CDR That's what I have to say to this TV.
CC I'll tell Al Bain that.
CDR And tell him I played deck in the suit stowage and locker location.
CC Roger.
CC Paul, you're GO to terminate SO73.
SPT Okay.
PLT Hey Houston, Skylab.
CC Go Skylab.
CC Skylab, Houston. You called?
PLT Yes, I had to move to a different box because I can't get program to 6 to work on SO73. While you're thinking about that, can I just manually drive - or using the switches drive the shaft in trunnion to the proper settings and then retract it?
CC Roger, Paul. You got a GO to do that manually, trunnion to 0 and shaft to 40.
CC Skylab, Houston. About 30 seconds from LOS, Mila at 9:22.
SPT Crip, if you answered my last question, I didn't get your reply. Did you give me the answer yet?
CC Roger, you got a GO to do that manually, Paul. Trunnion to 0 and shaft to 40 for retraction.
SPT Okay, I terminated mode three, set up (garble) start switch the program light came on but it never drogued.
CC Roger. Corollary checking that out.
SPT Okay.
PAO This is Skylab Control at 9 hours 19 minutes. Goldstone has had loss of signal. There's about a three minute

gap between Goldstone and acquisition at the Merit Island, Floridia station. Flight Director, Neil Hutchinson, has left the control center on his way to the building 1 briefing room at JSC for the Change-of- briefing. That briefing should start in approximalely 4 to 5 minutes. We'll take this line down and tape any air-ground transmissions during the Change-of-shift briefing, and play back the tape at the earliest opportunity. At nine hours and 20 mintues Greenwich mean time, this is Skylab Control.

END OF TAPE

Star Track Questions

PAO This is Skylab Control at 9 hours 34 minutes Greenwich mean time. The Canary Island station has just acquired Skylab. This pass will continue on into the Ascension Island coverage. We'll have coverage here for the next 15 minutes. We'll stay up live for these two passes and then play the accumulated tape after Ascension loss of signal.

CC Skylab, Houston. AOS over Canary for 14 minutes, 14 minutes.

CDR Roger.

CC SPT, Houston. If you are copying, regarding your 82A and B question involved with the flare, the word we have is that if you get a flare use 82A and B as required to record it.

SPT Okay.

CC Skylab, we're loading momentum biasis of 0 back into the computer, we'd like for you to stay off the DAS for a minute or so, please.

SPT Okay.

CDR Hey, Crip.

CC Go ahead.

CDR For somebody to be thinking about, let's say that we start running behind you down to the wire and I start the S019 stuff late. Do they want the first star field photographed late and get what we can, or do they want that star field sequence picked up on time?

CC Okay, we'll look at that. And I'm reviewing a procedure right now for you to pass up for you on that 73. We'll have it for you in just a minute.

SC Okay. I'm standing right here. I'll just do it as you read it.

CC Okay, Paul. The procedure that we're basically going to try to do, is to take off the automatic programmer. And the procedure for you to do is turn the power off.

SC Got it.

CC Okay. Disconnect the automatic programmer. That's the cable, and then insert the jumper plug on the manual control panel.

SC It's in work.

SC Is that shorting plug Juliett 10?

CC Stand by. That's affirmative.

SC And it does go into manual control panel, right?

CC That's affirm.

SC That's complete.

CC Okay. We'd like you to go ahead and try again, to drive it and we'd like for you to also note that you cannot drive the shaft and trunnion at the same time.

SC Still does the same thing, Bob.

CC That's what we were afraid of.

SC Me too.

END OF TAPE

SL-II MC-1108/1
Time: 04:43 CDT, 24:09:43 GMT
6/17/73

CC PLT, Houston. We are still pondering what the problem is. Obviously it's not in the automatic programmer, meanwhile we'd like you to go ahead and retract two rods while we're thinking about it.

PLT Okay.

CC And leave the power on it.

PLT You want the power left on, all right.

CC SPT, Houston. The DAS is yours once more and we need you to enable the dump for us please, sir.

CC Skylab, Houston. We're one minute from LOS. We'll see you again over Carnarvon at 10:13, 10:13 and we'll be doing a data recorder dump at Carnarvon.

PLT Roger.

PAO This is Skylab Control, at 9 hours 50 minutes Greenwich mean time. Ascension has loss of signal. The next station to acquire will be Carnarvon in 22 minutes. There was considerable discussion during this pass concerning a problem with the S073 experiment. That's the gegenschein zodiacal light experiment that's installed in the scientific airlock. Paul Weitz can't move the shaft and trunnion to the desired positions. It was believed that the problem might be in the automatic programmer. And the ground passed up a procedure to disconnect this programmer from the system and enable manual control only. That procedure was not successful, so the problem does not appear to be in the automatic programmer. The corollary experiment controller and his team came, are continuing to study the problem. And there will probably be further discussion on S073 over the Carnarvon station. We accumulated 3 minutes 30 seconds in tape during the change of shift briefing. We'll play that tape for you now.

END OF TAPE

CC Skylab, Houston. We're AOS over Mila for 9 minutes. And Paul, we indicate that you're going shaft down to zero and that shaft should be at 40.

SC We got more problems than that, Bob, unless our readout is not right. We had an upper shaft limit in here. We've changed it now, whatever it was. 235. The shaft angle is sitting at 345, and as soon as you do anything, - when you go to SECREASE on this shaft, it'll run down, as soon as you go out of DECREASE, it goes back to what is apparently the stop at 345. In order to run any data, if I go to TRUNNION DECREASE, they both stop. As soon as I go TRUNNION off - they're both off the shaftal drive to 345.

SC (Garble)

SC What are you indicating for the angle of the shaft right now?

CC Stand by one.

CC Okay, Paul. We're still looking at the angle right now. We recommend that you cycle the power off and then back on.

SC We've done that half a dozen times, Bob.

CC Okay.

SC We also did it with the camera program disabled. That didn't seem to make any difference. We've done it all zips on the programmer, that didn't seem to make any difference.

SC Normally with the shaft, you leave the TRUNNION in DECREASE.

SC It looks like the SHAFT DECREASE switch selector is stuck in the SHAFT INCREASE position.

CC Roger.

SC Bob, what we're reading on board right now is zero, whoops! Wait. Okay. Now that the CDR has gone TRUNNION the shaft angle is 040 and the trunnion angle is 117. And the only way we got it stopped now is with the SHAFT switch is OFF and the TRUNNION switch in DECREASE.

SC Are you still there, Houston?

CC Roger. We're showing a trunnion of 112 and a shaft of 40 right now.

SC Okay. When, - it wasn't doing it before for me, but now Pete's got it. We've stepped back off a few steps on trunnion some way. (Garble) was playing with the switches and we got it to count down a few counts. And with TRUNNION in either INCREASE or DECREASE, it will stop the shaft from rotating now.

CC Roger. Understand. TRUNNION INCREASE or DECREASE will stop the shaft.

SC Yeah, but it won't do anything to the trunnion.

CC Roger.

SL-II MC-1109/2
Time: 4:52 CDT, 24:09:52 GMT
6/17/73

CC Skylab, Houston. We're 1 minute till LOS. We're still looking at some procedure that might solve your 73 problem, and we'll try to have that for you over Canary at 9:33, 33.

CC And, Joe, just a reminder, we do need to be in OPTICAL REFERENCE on 55 for the next thing coming up.

SC Okay.

PAO This is Skylab Control. That's the end of the tape. We'll come back up just prior to acquisition at Carnarvon. At 9 hours 55 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC110/1
Time: 05:11 CDT; 24:10:11 GMT
6/17/73

PAO This is Skylab Control, at 10 hours 11 minutes Greenwich mean time. Skylab is nearing acquisition at the Carnarvon, Australia station. We'll stand by for this pass.

CC Skylab, Houston. We're AOS over Carnarvon for 9 minutes. And we will be doing the data recorder dump.

CC PLT, Houston.

SC He can't come to the phone right now, but - but we got it into two rods to get us into good shape. And whatever was hung up, unhung itself; and he got it manually to 0 TRUNNION 040 SHAFT, and it's in and he's taking it down.

CC Very good; solves all of our problems.

SC There you go. Stick with us kid.

CC Roger, can fix anything.

SC Meanwhile the Betsy Production TV Company is still at it.

CC Roger.

CC PLT, Houston. Regarding your question as to which star field to do first; if you're short on time, we'd like you to go ahead and take the first star field first. We assume that you shouldn't be in too much of a time constraint, though.

SC Yeah.

SC I hope our demonstration of how triangle shoes work is sufficient.

CC I'm sure we'll enjoy it.

SC Hey.

SC Hey, Crip, I'm not going to give a demonstration of the little balls on the toes of the feet (garble); because I don't use them, and I don't have time.

CC Copy.

SC This is all strictly personal preference. Joe likes his; uses them all the time except when he's riding the bike because you got to use triangles, and I think Paul and I both use the triangles all the time because it was just easier than changing about.

CC Roger.

PAO This is Skylab Control, at 10 hours 22 minutes Greenwich mean time. Skylab has passed beyond range at Carnarvon; will be within range at Guam in 5 minutes. We'll come back up just prior to the Guam pass. At 10 hours 22 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1111/1
Time: 5:25 CDT, 24:10:25 GMT
6/17/73

PAO This is Skylab Control at 10 hours 25 minutes Greenwich mean time. Skylab coming up on the Guam tracking station. Over Carnarvon, Paul Weitz reported that he had shortened the extension on the S073 experiment, the gegenschein/zodiacal experiment, from 7 rods to 2 rods and then had shaken the experiment package and following the shaking, he was able to drive the shaft and trunnion to the positions he wanted. We'll stand by now for acquisition through Guam.

CC Skylab, Houston. We're AOS over Guam for 6 minutes. Sorry about that missed call for LOS.

SC Houston, CDR. On TV-15, I'm going to skip the shower. And then the TV tour 1, which has no voice. They didn't want voice, anyhow, and I've expended more than enough time on this thing already, like an hour and 20 minutes.

CC Okay.

SC You got three (garble) those shoes and the other, two items that were asked for in the print this morning: suit stowage and locker doors and that is it.

CC Roger.

SC Houston, SPT.

CC Go, SPT.

SC The S056 special troubleshooting procedure has just been completed, and the two sequences were completely nominal.

CC Roger. Copy both nominal.

CC CDR, Houston. Since you've completed your TV, we're going to go ahead and start rewinding, so we can do our dump at Goldstone.

SC Yea!

CC Skylab, Houston. We're 30 seconds from LOS. Goldstone at 51, 10:51.

PAO This is Skylab Control at 10 hours 34 minutes Greenwich mean time. Guam has had loss of signal. Skylab will miss Hawaii on this revolution. The next station to acquire will be Goldstone in 17 minutes. We'll come back up just prior to acquisition there. At 10 hours 34 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II NC-1112/1
Time: 05:50 CDT, 24:10:50 GMT
6/17/73

PAO This is Skylab Control, at 10 hours 50 minutes Greenwich mean time. And the Goldstone tracking station is about to acquire Skylab. We'll stand by through this pass over the United States.

CC Skylab, Houston. AOS over the States for about 15 minutes.

SC Okay, let me know when you get your TV.

CC Okay. Houston. We're dumping the VTR at this time. It'll be our Mila pass at 57 before we're going to get real time.

SC All righty.

SC Fred, you got time for a couple of words on S073?

CC Roger.

SC Okay. ,When I turned the power off, or left it on prior to retracting it last time I looked - hey, let's look at something. Wait a minute.

SC Okay, Crip, it was the reading whatever I told you. I had the shaft of 40 and locked up by the SHAFT OFF, and the TRUNNION to DECREASE. And it was reading whatever the last number was I gave you, 117 or so. I pulled it in when I got into rod A. I was pulling it in in (garble) until apparently the photometer hit the side of the vehicle; not very hard, just tapped it. And then I went around the side, I took the first B rod off and stowed it, and went around the side and looked and the trunnion was reading about 15 or so. So I went ahead and cycled it and it came right on down to zero and retracted it and we're home free.

CC Okay, so you didn't actually physically shake the inside case then?

SC Did you mean the big long box?

CC Affirm.

SC Heavens no! I don't want to tear the airlock out of the wall.

CC Roger. Okay, we misinterpreted what was said awhile ago.

SC Oh, okay. No, I pulled it in and banged photoometer head up against the outside of the vehicle, and that's what stopped whatever was going on.

CC Okay, we copy. And Paul, I'd like to change the word I gave you on S019 a while ago. If you do get late for any reason, we want you to pick up the times on the pad itself and just eliminate what you missed.

SC Okay, I shouldn't be late.

CC CDR, Houston. We're ready for your ATM TV at this time, and give us a call when you finish the

required cycling.

SC Okay, you've I'm looking at H-Alpha 2 right now, and I'll give it to you (garble).

CC Roger.

SC H-Alpha 1.

CC Roger.

SC That's white light coronagraph, I'm tarting to roll.

CC Roger, looks pretty.

END OF TAPE

SC XUV fine.
CC CDR, Houston. We blew that last XUV mon integration sequence on the ground here, we would appreciate it if you could perform it over for us.
SC Okay.
SC Coming at you.
CC Skylab, Houston. LOS in 1 minute. Ascension at 11:19, 1, 1, 1, 9.
PAO This is Skylab Control at 11 hours 10 minutes Greenwich mean time. Bermuda has had loss of signal. And Ascension will acquire Skylab in 8 minutes. We'll come back up for that pass. At 11 hours 11 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1114/1
Time: 06:17 CDT, 24:11:17 GMT
6/17/73

PAO This is Skylab Control at 11 hours 17 minutes Greenwich mean time. The tracking station at Ascension Island is about to acquire the spacecraft. We'll stand by for this pass.

CC Skylab, Houston. AOS over Ascension for about 5 minutes.

SC Roger, Houston.

CC PLT, Houston. You have a, need a minute sometime this pass or the next, to talk about a MOD for your S019 Pad.

SC Come on.

CC Was that you, Paul?

SC Yes, wait a minute.

SC Okay. Go ahead, I'm ready for your deletions.

CC Yes. If you'll look down at the bottom of your pad, that - at 12:07 we have a field 10 and then we got 11 and 12. There's a single star used for those 3 fields and it's really not available until 12:08. What we'd like to do is to drop down and to pick up fields 9, 12 and 11, uh, 9, 11, before you get into fields 10, 11 and 12. And I - -

SC (garble)

CC Okay. I can give you some times, which are just recommended times, basically all we're doing is at 12:07 picking up fields 9, 12 and 9, 11.

SC Okay.

CC Okay. If you'd like to copy, I can go ahead and give you these recommended times for the field.

SC Wait one.

SC Okay.

CC Okay. At, for field 912, we'd like that done at 12:07. 911 at 12:11. Field 10 at 12:15. 11 at 12:16. Field 12 at 12:18.

SC That's the same way I figured it out . How bout that?

CC I knew you could do it all along. (Music)

CC And CDR, Houston. We copy you in optical reference on 55 and we need you in mechanical for that particular step.

SC Roger.

CC Skylab, Houston. We're 1 minute until LOS. See you again at Carnarvon at 11:50, 1, 1, 5, 0.

SC Hi, Houston. What do you want to do if this thing hangs up in active 2 long? Restart it or quit?

CC We'll check it.

PAO This is Skylab Control at 11 hours 25 minutes Greenwich mean time. Ascension has had loss of signal. Skylab will next be acquired by the Carnarvon, Australia station, in about 24 minutes. We'll come back up just prior to acquisition at Carnarvon. At 11 hours 25 minutes Greenwich mean time, this is Skylab Control. Fix it if she hangs up?

END OF TAPE

SL-II MC-1115/1
Time: 06:48 CDT, 24:11:48 GMT
6/17/73

PAO This is Skylab Control at 11 hours 48 minutes Greenwich mean time. We're standing by for Skylab acquisition at Carnarvon.

CC Skylab, Houston. AOS Carnarvon 10 minutes.

SC Roger.

CC And CDR, if you'll stay off the DAS for us, please, we'll be doing a NAV update this pass.

SC Roger.

CC Roger, and break a, PLT, Houston. I know you're busy getting ready to set up on this SO19, but believe it or not, we got another MOD at the end of your pad. On f ld 10 and 11 and 12, you should add 100 degrees to each of the rotations, in other words you should be 184.7, 185.7, and 184.7. No need to acknowledge.

SC He acknowledged, Houston, in his own fashion. And the carbon di - monoxide composition of the spacecraft atmosphere is undetectable.

CC Roger. Undetectable. Yeah, I was afraid of his acknowledgement, that's why I asked not to get one.

SC Okay.

SC They're making up a story.

CC Roger.

SC I calmly whipped out my little pencil and made the changes in fields 8, 9, and 10, like you wanted.

CC Skylab, Houston. The DAS is yours once more.

CC Skylab, Houston. LOS in 1 minute. Guam at 12:03, 1, 2, 0, 3.

SC Roger.

PAO This is Skylab Control at 12 hours Greenwich mean time. Carnarvon has had loss of signal. A very short LOS between Carnarvon and acquisition at Guam. We're about 2 minutes away from Guam acquisition. We'll continue to stand by for that pass.

END OF TAPE

SL-II MC1116/1
Time: 07:00 CDT, 24:12:00 GMT
4/17/73

CC Skylab, Houston. AOS, Guam 10 minutes, 10 minutes.
SC Hey, Crip, are you there?
CC Affirm.
SC (Garble) got the 509, make it line 81 and 82 of the shopping list is complete.
CC Roger. Understand complete.
CC CDR, Houston. If you can give us the time back on how long it took to charge the bottle, we'd appreciate it.
SC Oh, it quit hitting at me in about 3 minutes.
CC Thank you.
SC Hey, Crip, did they get good voice on the TV last night?
CC Okay.
CC Skylab, Houston. Regarding that TV voice, so we can be sure, which event are you talking about? Are you speaking of the tour last night?
SC Yes, Charlie.
CC Skylab, Houston. Regarding the voice on TV, we're advised that the voice was received however, it was of poor quality.
SC Okay, that's those bloody mikes. They (garble) all right. Thank you. Also on channel B you might see if it's any better there. We recorded B also.
CC Roger. And we're 1 minute until LOS. See you over Goldstone at 12:28, 1228.
SC Okay, it's your last chance to make changes to SO19.
CC Aren't you glad?
CC We have Pete's pad later.
SC Thanks.

END OF TAPE

SL-2 MC-1117/1
Time: 07:13 CDT, 24:12:13 GMT
6/7/73

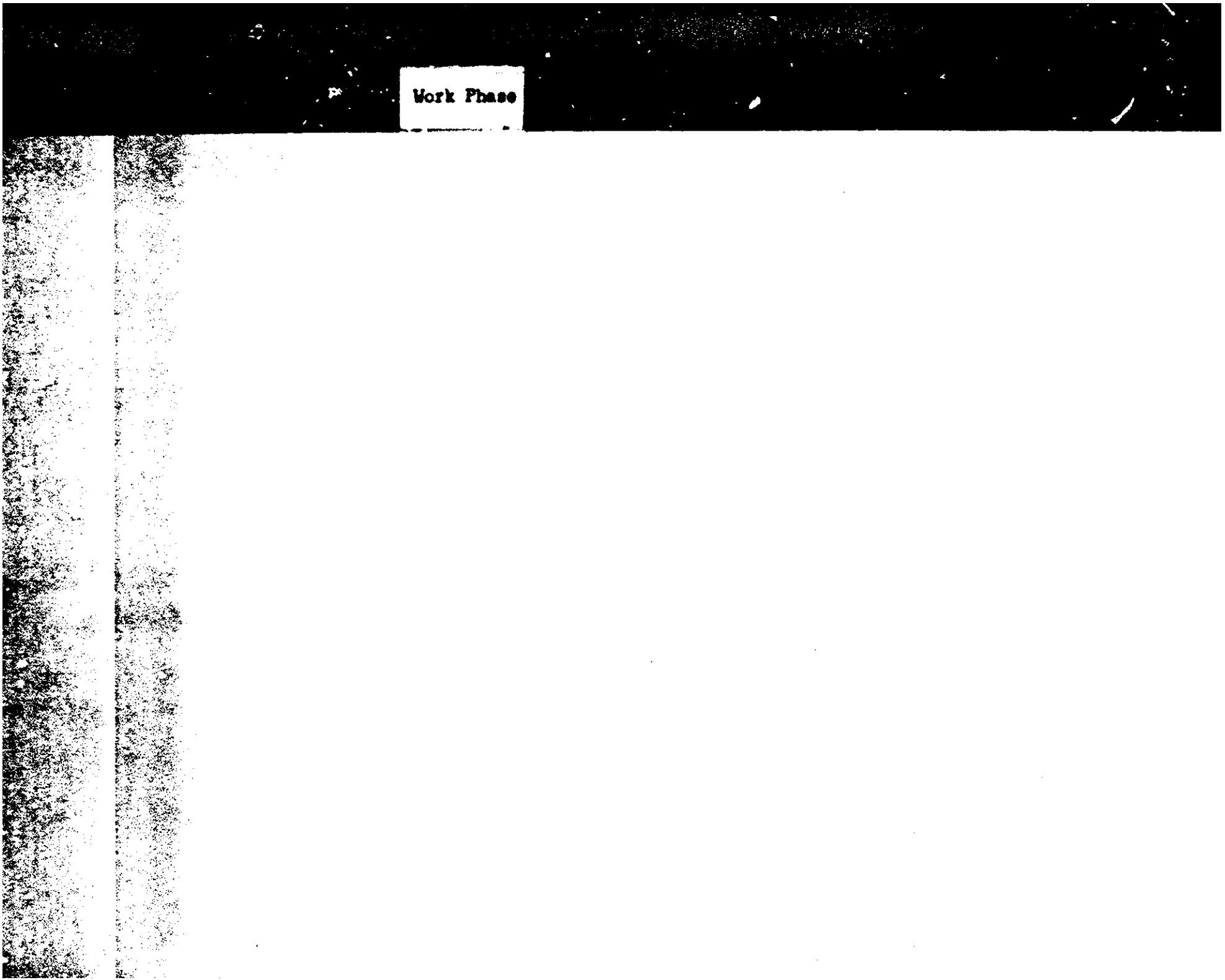
PAO This is Skylab Control at 12 hours 13 minutes Greenwich mean time. Ducm has had loss of signal. Skylab will next be acquired by the Goldstone tracking station in 15-1/2 minutes. We'll come back up then. At 12 hours 13 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-1117/1
Time: 07:13 CDT, 24:12:13 GMT
8/17/73

PAO This is Skylab Control at 12 hours 13 minutes Greenwich mean time. Bucm has had loss of signal. Skylab will next be acquired by the Goldstone tracking station in 13-1/2 minutes. We'll come back up then. At 12 hours 13 minutes, this is Skylab Control.

END OF TAPE


Work Phase

SL-II MC1118/1
Time: 07:27 CDT, 24:12:27 GMT
5/17/73

PAO This is Skylab Control, 12 hours 27 minutes Greenwich mean time. Skylab is now within range of Goldstone, we'll stand by for acquisition there.

CC Skylab, Houston. We're AOS over Goldstone for about 17 minutes.

SC Okay, Houston. I had a very strange thing just happened with our orbit phase clock. As it counted through 60 minutes and it got down to 59 minutes and something and suddenly jumped and lost 4 minutes. It jumped to 55 minutes. And is now counting 51:53, which I don't think is right.

CC Okay, we're looking at it.

SC Thank you.

SC And only 3 more exposures and I'll be done with SO19. Hang in there.

CC Roger. Copy, Paul.

SC Hey, Crip, how about having them look at 56 and see if it's hung up in filter 1?

CC Wilco.

SC By the way, it hung up a second time in filter 1 and (garble) during the last rev.

CC Roger, copy.

CC CDR, Houston. Can you associate that clock change with when you enabled dump?

SC Well, that could have been, it could have been. I can't say for sure, but it could have been.

SC As a matter of fact, I think I looked at the clock, it's 60 and enable dump and then looked back again and sure enough it was about 55, so maybe that's what it was.

CC Okay, we're checking to verify that it's reading correctly now.

CC CDR, Houston. 56 apparently is houng up again and we need you to hit START; and by the way, we have a pad for you in the teleprinter.

SC Okay, wait 1.

SC You there, Houston?

CC Affirmative.

SC Tell me your update.

CC Roger.

SC You got a pad for me, Houston?

SC Hello, world.

SC Hello, Houston, are you there?

CC Affirmative.

SC All right, you have a pad for me?

CC We have sent you a message. If you didn't receive it we can retransmit it.

SC You mean in the teleprinter?

CC Affirm.

SC Oh, okay.

SC I got it, thank you.

CC Roger.

END OF TAPE

SL-II MC-1119/1
Time: 07:41 CDT, 24:12:41 GMT
6/17/73

CC Skylab, Houston. Regarding your orbit phase clock, it does appear that the time change is contributable to when you enabled dump and the time that you're looking at now is approximately correct according to our calculations. And we do have a long LOS coming up, - It's about 1 minute from now and we'll see you again over Goldstone at 14:05, 1, 4, 0, 5. At which time we'll be doing a data recorder dump.

SC 1, 4, 0, 5. Got you. Thank you.

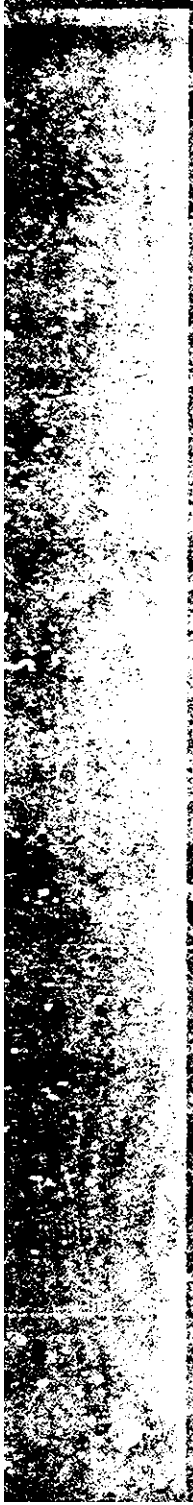
PAO This is Skylab Control; 12 hours 46 minutes Greenwich mean time. The Bermuda and MILA stations have had loss of signal. Tracking ship Vanguard will be the next station to acquire. The low elevation pass, and we may not get air-to-ground on that pass. If we do not, the next station will be Goldstone in 1 hour and 17 minutes. We'll come back up prior to Vanguard and see if we get air-to-ground at that station. At 12 hours 47 minutes, this is Skylab Control.

END OF TAPE

SL-1I MC-1120/1
Time: 07:52 CDT, 24:12:52 GMT
6/17/73

PAO This is Skylab Control at 21 hours 52 minutes Greenwich mean time. We will not try to acquire Skylab at the Vanguard on this revolution. So the next acquisition will be at Goldstone in 1 hour and 12 minutes, 1 hour and 12 minutes until the next acquisition. At 12 hours 53 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE



PAO This is Skylab Control, at 14 hours 4 minutes Greenwich mean time. Skylab coming within range now at the Goldstone, California tracking station. We'll stand by.

PAO This is Skylab Control. This is the crew's lunch period during this pass over the United States. We'll continue to stand by.

CC Skylab, Houston. We have you over the states now for about 8 more minutes.

SC Roger, Crip.

CC And we copy the experiment 1 recorder is on at this time. Appreciate it if you turn it off if it is not being used and we'll dump it.

SC Okay.

SC If anyone cares, the PLT makes 30 rpm. All these stinking wires didn't get in the PLSS.

CC Fantastic, I didn't think anybody could do that.

SC I didn't either.

CC Skylab, Houston. For your info we have your flight plan for tomorrow onboard at this time.

SC Holy mackrel!

CC Would you believe that?

SC Frankly, no. We're going to go look.

SC We haven't finished today's yet, Houston.

CC Say again.

SC We haven't finished today's flight plan yet. We can't start on tomorrow's.

CC Roger. We just got tired of staying ahead of you guys.

SC Yeah, but you know if we finish early today we'll start on tomorrow's pad.

CC Okey-doke.

CC And for your information, we also have your details ready, but we aren't going to send those to you yet.

SC Chicken.

SC Hey, Crip, you know on fishing boarts and talking on S-band? We're getting a little cross talk clunk up here from something. Sounds like a boat.

CC Roger, we copy cross-talk every once and a while on our loop also. I'm not sure exactly where it's coming from.

SC Excerts we've heard all flight.

CC Skylab, Houston. One minute until LOS, Vanguard at 14:30, 1430. We'll be doing a data recorder dump at Vanguard.

SL-II MC1121/2
Time: 09:04 CDT, 14:14:04 GMT
8/17/73

SC Roger, Crip.

PAO This is Skylab Control, at 14 hours 20 minutes Greenwich mean time. The Texas tracking station at Corpus Cristi has loss of signal with Skylab. She'll move now - move down over South America and will be acquired by the Vanguard tracking ship in 9 minutes. We'll come back up at that time. At 14 hours 20 minutes, this is Skylab Control.

END OF TAPE

DL-11 MC-1122/1
Timer: 09:28 CDT, 24:14:28 GMT
6/17/73

PAO This is Skylab Control at 14 hours 28 minutes Greenwich mean time. Skylab is being acquiried now by the Vanguard tracking ship. We'll stand by for air-to-ground communications there.

CC Skylab, Houston. AOS over Vanguard, and we'll be doing a data recorder dump.

SC Roger.

END OF TAPE

SL-II MC-1123/1
Time: 09:36 CDT, 24:14:36 GMT
6/17/73

PAO This is Skylab Control at 14 hours 42 minutes Greenwich mean time. Skylab is out of range of the Vanguard ship now. The next station to acquire will be Goldstone, 1 hour and 1 minute from now. At 14 hours 43 minutes, this is Skylab Control.

END OF TAPE

Message from President

SL-IL MCC124/1
Time: 16:00 CDT, 24:15:00 GMT
6/17/73

PAO — This is Skylab Control, at 15 hours Greenwich mean time. During Skylab's pass over the United States on the last revolution there was a conversation between the President of the United States and the Skylab crew. The duration of the conversation was 1 minute 40 seconds. We have a tape of that conversation, we'll play that for you now.

NIXON — Hello.

SC — Hello, sir. How are you?

NIXON — Fine. Is this Pete Conrad?

SC — Yes, sir.

NIXON — Nice to talk - -

SC — We all are listening.

NIXON — Nice to talk to you again and Commander Kerwin and Commander Weitz are there with you, right?

SC — Yes, sir.

NIXON — Well, I just wanted you to know that everybody here has been following what you've been doing, and I guess the way I could summarize this project is that it proves that - that man still matters. With all the - with all the technical machines and so forth that you had to work with, it proved that when there were difficulties that the ingenuity of men in space is what really mattered. And you've really made us all very proud with the way you've handled some difficult problems in this project.

SC — Thank you, sir.

NIXON — And you'll be returning on the 22nd, I understand.

SC — Yes, sir, we're, of course, - counting different days. That's - I think day 173. We're working day 168.

NIXON — I see. Well, I'll - I'll be out in California at that time, and after you've splashed down I hope to welcome the three of you. Perhaps when you do maybe you can come up to San Clemente and we can say hello.

SC — That's wonderful, sir. I'm sitting here talking to you right now, coming up on the Coast of California looking out the window at a full Moon.

NIXON — Is that right? Let me also say this, that this is Father's Day. I understand that each of you is a father, so congratulations.

SC — Thank you, sir.

NIXON — Fine, and we'll look forward to seeing you after you get back.

SC — Yes, sir. Thank you very much for the call.

NIXON — Thank you, Pete. Bye.

PAO — This is Skylab Control. That ends the tape of the conversation between the President and the Skylab crew.

That pass, in which this conversation took place, began at Goldstone about 9:05 a.m. Central daylight time. Skylab is still 42 minutes away from acquisition at Goldstone on this revolution. We'll bring the line back up just prior to acquisition there. At 15 hours 2 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1123/1
Time: 10:19 CDT, 24:15:19 GMT
6/17/73

PAO Skylab Control at 15 hours 19 minutes and 4 seconds Greenwich mean time. We'd like to announce that at 10:30 a.m. central daylight time, there will be a play of the television of the TV tour made last night by the crew. This is in TV, Scene list number 26, TV26. This'll take place at 10:30 in the building 1 briefing room on monitors. The tour includes the orbital workshop, multiple docking adapter, and airlock module of the spacecraft. It does not include the wardroom area that was shown on the previous TV tour. This will be replayed at 11:30 a.m. central daylight time. That's TV tour will be replayed at 11:30 a.m. and at that time we will also play television Scene list number 15, which includes sleeping arrangements aboard the spacecraft, the trash disposal area and the triangle shoes. Does not include the shower that was normally listed as part as that, because that was a, - had to be deleted because of time requirements aboard the spacecraft. At 11:30 we will have astronaut Bruce McCandless available in the briefing room to discuss the television and he will act as narrator for both the TV tour and for TV Scene list number 15. So at 10:30 you may see the TV tour. At 11:30 the TV tour and TV 15, a sleep and trash disposal and triangle shoe, parts of the spacecraft. This is Skylab Control at 20 minutes and 33 seconds after the hour.

END OF TAPE

SL-II MC-1126/1
Time: 10:41 CDT, 24:15:41 GMT
6/17/73

PAO Skylab Control at 15 hours 41 minutes 16 seconds Greenwich mean time. At the present time we're 3-1/2 minutes from acquisition of signal. And we're going to give you a brief report on today's activities. So far the crew is well on schedule, in fact Science Pilot Joseph Kerwin and Pilot Paul Weitz, have begun their M131 experiment a bit early today. They indicated earlier to the biomedical people that M131 could be, begun ahead of schedule. It was originally scheduled to begin at 12:28, but they did begin earlier than that. Only one problem has occurred during the day and that was a problem with the retraction of S073, which is the gegenschein zodiacal light experiment. An experiment which measures the background light of the universe, and also light that occurs in the area of the zodiac. S073 which is extended on an 18-foot boom from the solar, no the antisolar scientific airlock of the spacecraft, was, attempted to withdraw that, the crew member Paul Weitz attempted to withdraw S073 today from the antisolar scientific airlock, that's the scientific airlock that sticks out the opposite side of the spacecraft from the parasol that protects it from the sun. When he attempted to retract that, using computer procedures, it failed to retract. He then went to, what is called manual control, it's actually an electronic control panel, and attempted to retract it in that method. He succeeded in retracting it most of the 18 feet that it had to be brought back, but the photometer head that sticks out at right angles, right angles from the main pole, was not retracted into the proper position. In order to bring it back inside he banged it against the side of the orbital workshop, and it did, it was gently banged. It was believed it was a gentle tap, but it was enough to bring it back into alinement, so he could bring it back in. Indications now from the corollary experiments officer here in mission control, are that they may have to test that to make sure it's still operating properly, although they're fairly confident that it is. That will not be used again, S073, which also is used for another experiment on measuring contaminates in the atmosphere around the spacecraft, will not be used again during Skylab II, it will be used in the following manned mission, the next manned mission uses it. They will have to use the pole however. Otherwise everything is going on schedule. The commander has had a busy day at the Apollo telescope mount. And there has also been some word from Dr. Kerwin there. We're now having acquisition of signal coming up at the Goldstone tracking station on the coast of the United States in California. This is Skylab Control at 44 minutes, remaining live for air-to-ground.

END OF TAPE

PAO Skylab Control at 16 hours 5 minutes and 18 seconds Greenwich mean time. We are coming up on acquisition of signal at the Vanguard tracking ship, in approximately 1 minute. We will stay live for air-to-ground from Vanguard. This is Skylab Control staying live for air-to-ground.

CC Skylab, Houston. AOS Vanguard 10 minutes.

SC Roger, Houston.

CC And we are doing a data recorder dump.

SC Hey, I'm not having very much luck with S056 today. It quits just about every time in ACTIVE 1 LONG, and it's just almost impossible to get it all the way through.

CC Roger. Understood that you did not want to go ahead and run it because of that?

SC Well, no. I can get pictures, but I don't get all of them, you know, it hangs up somewhere pretty nearly every time, that's all I get - can either get halfway through, or it hangs up on the first step through or something. The other thing is, as I made a comment on B channel that active region 37 and 41 is kind of difficult to figure out who is who, when you're doing some of these building blocks, so I'm using my prerogative of choosing and picking up here.

CC Roger. Copy.

SC Hey, Crip. We found that bag.

CC Okey-doke. Thank you.

SC (garble) It hasn't been transferred yet.

CC Ah-so.

SC Now, I'm watching. I just started ACTIVE 1 LONG right now.

CC Okay. Watching.

SC Well, at least you won't have to spend next Sunday, I hope, in the MOCRs.

CC I'm told by Flight that some of them will get to.

CC These poor guys got to man it all the time.

SC I keep forgetting about the lab. You're right.

SC Hey, Houston, SPT.

CC Go, SPT.

SC Roger. Regarding your general message 2425. I don't know what the item is, referred to in the second paragraph. I though perhaps it was my relatives, but they're bigger than a breadbox. So maybe it's the change from my paycheck. Any rate, thank them for their good wishes and Happy Father's Day to my father.

CC Roger.

SC And a Happy 89th Birthday to him, too.
CC Okay. I'll pass that on to Lee.
SC I'm not going to have to ride that bicycle on day 29, the way this schedule's going.
CC That's affirm.
CC CDR, Houston. If you've got a minute, you'll never believe it, but I've got a pad change for you on SO19.
SC Oh, I believe it, it'd spoil my whole day, if you didn't.
CC Okay. If the crew will do the, use the actually on rotation now, is not what we had predicted it to be and what we need to do is have you add 1 degree to all rotations.
SC That's a good story, Crip. You ought to stick with it.
CC I got to come up with a new one each time.
SC Consider it done.
CC Thank you.
SC SO19 PIs now on 25, today.
SC Tell him we're willing to serve even if it's (garble).
CC Roger. I'm sure he'll be glad to hear that.
SC Looks like you're hung up again, Houston. In 56 that is.
CC Copy. We saw it.
CC Skylab, Houston. 1 minute till LOS. Hawaii at 17:16. 1, 7, 1, 6.
SC What'd you say, Crip?
CC We're going to LOS. We'll have you again in 1 hour, at 17:16.
SC Okay. We were just all chortling over 2516 Alfa.
PAO Skylab Control at 16 hours 17 minutes 32 seconds Greenwich mean time. We have lost signal at the Vanguard tracking station at this time. And we do not expect to acquire for 57 minutes and about 42 seconds. Our next acquisition of signal on rev 491, will be at the Hawaiian tracking station. We'll have a nearly overhead pass at Hawaii. At this time we are preparing to replay the conversation between President Nixon and Commander Pete Conrad. That took place this morning between 9:05 and 9:10 Central Daylight Time, as the spacecraft was acquired at Goldstone tracking station. At that time the conversation was a private one, it was held off of the loops. This is a replay of the entire conversation which takes about 1 minute and 40 seconds. For of those who would like to record it, you should have your recorders set now, here is a replay of the conversation between the crew and [illegible]

NIXON Hello.
SC Hello, sir. How are you?
NIXON Fine. Is this Pete Conrad?
SC Yes, sir.
NIXON Nice to talk - -
SC Joe and Paul are listening.
NIXON Nice to talk to you again, and Commander Kerwin and Commander Weitz are there with you, right?
SC Yes, sir.
NIXON Well, I just wanted you to know that everybody here has been following what you've been doing, and I guess the way I can summarize this project is, that it proves that - that man still matters. With all the, - with all the technical machines and so forth that you had to work with, it proved that when there were difficulties that the ingenuity of men in space is what really matters. And you've really made us all very proud with the way you've handled some difficult problems in this project.
SC Thank you, sir.
NIXON And you'll be returning on the 22nd, I understand.
SC Yes, sir. We're, of course, - counting different days. That's - I think, day 173. We're working day 168.
NIXON I see. Well, - I'll be out in California at that time, and after you've splashed down I hope to welcome the three of you, perhaps when, you do maybe you can come up to San Clemente and we can say hello.
SC That's wonderful, sir. I'm sitting here talking to you right now, coming up on the coast of California looking out the window at a full Moon.
NIXON Is that right? Let me also say this, that this is Father's Day. I understand each of you is a father, so congratulations.
SC Thank you, sir.
NIXON Fine and we'll look forward to seeing you after you get back.
SC Yes, sir. Thank you very much for the call.
NIXON Thank you, Pete. Bye.
PAO Skylab Control. That is the conclusion of the message from the President to the crew of the first Skylab manned mission. This is Skylab Control, our next acquisition of signal is 55 minutes from now. Time now is 20 minutes and 28 seconds after the hour.

END OF TAPE

SL-II MC1128/1
Time: 11:25 CDT, 24:16:25 GMT
6/17/73

PAO Skylab Control at 16 hours 25 minutes and 41 seconds Greenwich mean time. We're just a little over 4 minutes from the replay of the television tour that was made last night by the Skylab crew. We will have astronaut Bruce McCandless, a member of the backup crew available to discuss the television while - while it's being replayed for those people who have monitors and in the building 1 small briefing room. Like to read you todays Father's Day messages that were sent up earlier on the teleprinter pad to the members of the crew. To Commander Pete Conrad from his wife and boys: Jane and boys will greet you at 21:14 through Ascension. That is to say they will be talking today at 4:14 p.m. Central daylight time from here in Mission Control to the crew. To the Science Pilot, Joe Kerwin: Happy Father's Day from all the Kerwin girls. Your present is smaller than a breadbox and contains more than 50 items. And to the Pilot, Paul Weitz: Happy Father's Day from all the kids. The family misses you and looks forward to your return. These messages were sent up on the teleprinter pad during the night, and there will be a conversation later today. We expect that to be open on the open line between Commander, Pete Conrad, and his wife and children here in Mission Control. We're now about 3 minutes from the beginning of that replay of the television tour, and also television 15 with Bruce McCandless in building 1 small briefing room. This is Skylab Control, still 48 minutes from the next acquisition of signal at the Hawaiian tracking station; 27 minutes and 26 seconds after the hour.

END OF TAPE

PAO Skylab Control, we have acquisition of signal at Hawaii.

CC Skylab, Houston, AOS Hawaii, 10 minutes.

SC Hello.

CC Hello.

SC Hey, Crip. Have a look at 56 again. It doing, looks like it's just hung up.

CC Roger. Okay, Adam's looking at it.

CC CDR, Houston. Roger, we concur the 56 - 56 had hung up and (garble) that you start it again. And we're suddenly had a rate gyro discompare in the Y-axis and we'd like to get you to select rate gyros 2 and 3 in the Y-axis. I can give you those DAS codes if you'd like them.

SC Go ahead.

CC Roger. That's 52015 for function code, and data is 50024.

SC Okay.

SC It's done.

CC Roger.

CC Skylab, Houston, LOS in 1 minute. Vanguard at 17:45, 1745 and we'll be doing a data recorder dump at Vanguard.

SC Okay, what happened? The Y gyro get a - drift compensation go out again?

CC It looked like it failed the integral test right now. I guess the word has it that the gyro look pretty good. We're taking a look at it.

SC Okay.

PAO Skylab Control, 17 hours 24 minutes and 48 seconds Greenwich mean time. We have now lost signal with - at the Hawaiian tracking station as the spacecraft travels off to the southeast of Hawaii over the Pacific Ocean approaching the Equator. We expect to hear again from the crew at the next acquisition 20 minutes from now at the Vanguard tracking ship. Until then this is Skylab Control, 25 minutes and 14 seconds after the hour.

END OF TAPE

SL-II MC-1130/1
Time: 12:43 CDT, 24:17:43 GMT
6/17/73

PAO Skylab Control at 17 hours 44 minutes and 3 seconds Greenwich mean time. At the present time we're approaching the Vanguard tracking ship's area of communication, and we should hear a call very shortly. We'll have acquisition of signal in approximately 50 seconds. We'll stay live for air-to-ground, Skylab Conrol.

CC Skylab, Houston. AOS, Vanguard, 9 minutes and we will be doing a data recorder dump.

SC Roger, Houston.

CC CDR, Houston. We indicate detector 6 and 7 on at this time and they should not be with this grading settings. Would you secure those, please?

SC Roger.

SC Hey, Houston. What I just did there was run that building block in separate (garble) with MIRROR AUTO RASTER not running, while I had ACTIVE 1 LONG going and I got 12 frames, and I quit anyhow.

CC Okay.

CC Skylab, Houston. LOS in 1 minute. Hawaii at 18:52, 1, 8, 5, 2.

SC Roger.

PAO Skylab Control at 17 hours 54 minutes and 53 seconds Greenwich mean time. We have lost our signal from the Vanguard tracking ship, as the spacecraft travels across the South Atlantic anomaly, where we sometimes have radio signals that, intervals that are undependable, so we don't know when we'll lose them. We did lose them by the time we had scheduled on our clock. Our next acquisition of signal is in 57 minutes and that will take place on rev 492, which we are just now beginning at the Hawaiian tracking station. At 55 minutes and 24 seconds after the hour, this is Skylab Control.

END OF TAPE

SL-II-MCl131/1
Time: 13:48 CDT, 24:18:48 GMT
6/17/73

PAO Skylab Control, at 18 hours 48 minutes and 18 seconds Greenwich mean time. At the present time the spacecraft is about 3 minutes and 49 seconds from acquisition of signal at Hawaii. At this time Commander, Pete Conrad, should be setting up the sample array detector mechanism in the scientific airlock. The sample array detector mechanism is for experiment T027, the contamination measurement experiment. He should be setting that in the scientific airlock on the side of the orbital workshop's forward or upper compartment that faces away from the Sun. The mechanism is a box-like container with some 200 samples that will exposed to contaminants in the nearly perfect vacuum outside the Skylab space station during the coming 2-1/2 days. The contamination measurement experiment was originally designed for use in the scientific airlock SAL, S-A-L, on the Sun side of the workshop, but because that small airlock now contains the parasol used to shield the workshop from the Sun's rays, the opposite scientific airlock is being used. That's the antisolar scientific airlock is being used now. This modification does mean that no telemetry data will be available on minute by minute changes in the weights of the samples as they accumulate contaminants. The antisolar SAL is not wired for telemetry, for the quartz crystal microbalance which is included to measure changes in sample weights. At this time, we also expect to hear that the Pilot, Joseph - the Pilot, Paul Weitz should have - been finished with the M092/M171 run. He was subject today of the lower body negative pressure device experiment, where he sits in an iron lung-like container and has pressure pumped out from around his legs to see what changes take place in the fluid volume of the leg. And also, Pilot, Paul Weitz was the subject of the metabolic activity experiment which is associated with that lower body negative pressure device experiment. Metobolic activity is where the pilot rides the bicycle ergometer and has measurements made of various changes in physical condition. Those two things should have been completed with observer Dr. Joseph Kerwin watching Paul Weitz perform them. We expect now that we should be going into a period of presleep activity as the crew expects to go to sleep about 6 o'clock. They do began that presleep activity shortly. There is a television activity scheduled for a few minutes from now, as well. That will be the pilot's work. We - we have acquisition of signal at Hawaii and will remain live for air-to-ground.

CC Skylab, Houston. AOS Hawaii, 7 minutes.
SC Hello, Houston.
CC Roger.

SL-II MC131/2
Time: 13:48 CDT, 24/18:48 GMT
6/17/73

SC Hey, we see by the flight plan that there are MO92's tomorrow for both the CDR and SPT, STP, and we were curious what the advance plans were. Not all of them, just the rest of this week. Are those the last runs or are there more scheduled?

CC Okay, we'll take a look at that. And for your information, Joe, we had you scheduled for a JOB 13 at - I believe it's around 14:00 tomorrow, and we've changed our minds, we're not going to do that. We're going to give you back that time and use it for housekeeping and shopping list.

SC You chickened out, huh?

CC Somebody did.

SC That's too bad, I was getting all reved up for it.

CC Okeydoke. And this morning you had a question on that item 2 on odds and ends about 82 A and B, and the - I guess in reviewing that we consider that whole section on 82 A and B incorrect. It is possible to get the calibration frames from the failed 82A camera, so would you just forget that was ever written down.

SC Okay, I'll go tear it from it's place of glory on the panel.

CC Okeydoke.

CC I'm being told that there will be a run on - on Paul on the day after the EVA for the medical, and that will be the last one.

SC Copy. Thank you.

SC Boooo. (laughter)

END OF TAPE

SL-II-XC-1132/1
Time: 13:55 CDT, 24:18:55 GMT
5/17/73

CC Skylab, Houston. LOS in 1 minute. Vanguard at 19:24. 1, 9, 2, 4.

PAO Skylab Control at 19 hours and 35 seconds Greenwich mean time. We have lost signal at the Hawaiian tracking station as the spacecraft passed over the horizon south of Hawaii. And we are now expecting to have our next acquisition of signal in 22 minutes and 53 seconds at the Vanguard tracking ship, in the South Atlantic Ocean. We have not yet gotten an official time for a change-of-shift briefing with off going Flight Director Milton Windler, who is still occupied with final plans for tomorrow's Flight Plan. He is handing over, also in the handingover procedure to Charles Lewis the on coming Flight Director, and his team of flight controllers. So we expect a change-of-shift briefing sometime later this afternoon, but we do not yet have a time for it and we will announce when one is available. During this last pass we had very little conversation. There was a discussion of the running of the experiments for tomorrow. There was, there will be two runs of the M092 and 171 experiments. One with commander Pete Conrad as the subject and later on Pete will be the observer as the subject is Joseph Kerwin, the Science Pilot. On the first one the pilot will be Paul Weitz, - Pilot Paul Weitz will be the observer on Conrad's run of M092/171. That's lower body negative pressure device and metabolic activity experiments, those are the same experiments that are being conducted this afternoon, with Pilot Paul Weitz as the subject and observer Joseph Kerwin. Crewmen just completed a shor time ago, at the present time we expect that Pilot Paul Weitz is busy taking, making television pictures of the Body Mass Measurment device, which is a device for essentially getting weights of crew in a weightless condition. Crew members can sit in it and by using a series of balance and spring mechanisms it does register a mass measurement. And that mass measurement is used to give approximate weight or weight, equivalent of weight of the crew on Earth. And as we mentioned earlier T027 is being set up by the commander, - by Commander Pete Conrad in the antisolar scientific airlock. Following that we will have presleep activities. We do not expect to hear from the crew again for another 20 minutes, until we reach the Vanguard tracking station. This is Skylab Control at 2 minutes and 57 seconds after the hour.

END OF TAPE

PAO Skylab Control at 19 hours 22 minutes and 57 seconds Greenwich mean time. We're coming up on acquisition of signal at the Vanguard tracking ship and we'll stay live for air-to-ground from Vanguard.

CC Skylab, Houston. AOS at Vanguard for 9 minutes.

SC Hello, Night Bunch.

CC Hello there. I trust you guys have had a good day?

SC Yes. We had a rather pleasant day. Commander Weitz is currently filming the body mass measurement device for you guys on TV. And things are kind of getting quiet.

CC Well, very good. It's been a pretty day in Houston, too.

SC Has it, for a change, that's nice.

CC Yes. Today was definitely a top-down day.

SC (Laughter)

SC You haven't lived yet, Houston, until you've seen the Moon rise over Tierra del Fuego.

CC Gee, I'm sure that was pretty.

SC It sort of leaves you speechless.

SC 85' on tape for you, Houston.

CC Roger. Thank you.

CC Skylab, Houston. We're 1 minute from LOS. We're going to see you at Ascension at 19:39. And we are going to dump the data recorder at Ascension. There's a couple of housekeeping items that the EGIL would like you to do. One is in the command module to adjust the poly choke to orifice 1 and that can be done anytime at your convenience. The reason is that we're seeing a slow increase in PPO2 and total cabin pressure and we think this'll help out that situation. Also, when - - if we have data when we, - when we have confirmed that we have good data over Ascension and if you guys are not in the middle of supper we're going to ask one of you to do a small reg pot adjust for us there. See you at Ascension.

SC Okay. No sweat.

PAO Skylab Control at 19 hours 33 minutes and 45 seconds Greenwich mean time. We have lost signal from the Vanguard tracking ship in the Atlantic Ocean as the spacecraft begins its travel towards the, - on an ascending node. on revolution number 493, traveling towards the coast of Africa in a northeasterly direction. We expect to reach Ascension - Ascension site within the next 5 minutes. And we will hear air-to-ground from there. During this last pass we heard the crewmen announce that they could watch the moon rise over

Tierra del Fuego. The spacecraft is still in daylight but apparently they had a view of the Moon across Tierra del Fuego which is on the southern tip of South America. At this time, Milton Windler is still busy working over the Flight Plan for the coming day and he is working as well, on EVA procedures for the following day. Those EVA procedures will include at this time - appear to include an inspection of the S052 occulting disk, that's the white light coronograph and part of the Apollo telescope mounts, or telescope equipment. That occulting disk is used to block out the main body of the Sun, so that the corona can be studied in visible light. And it has some sort of a spec on it at this time it looks like, one bright spot that shows up on the occulting disk and it interfers with the study of the corona. The speck is believed to be about 1 millimeter in diameter, that is to say it's about 1/25th of an inch in diameter, so it's a very, very tiny speck, but it does have some interference with the experiment. For this reason the crew will be asked to inspect it and see if they can't brush it off with a tiny brush that they'll be carrying out. They also are going to test their repair skills on one of the battery modules that has been out and that's charger battery regulator module number 15. The instructions that are now in the planning stages are to have them take a whack at that with a hammer, that technique is not certain to work, but it does seem to be one that they're willing to try. And they have indicated that if it doesn't work the first time then they'll take a couple harder whacks with it. So they may make an attempt to repair one of the two charger battery regulator modules on the Apollo telescope mount solar array that are not now providing power to the spacecraft. Those two charger battery regulator modules, number 3 and number 15, could provide approximately 400 to 500 watts of power if they were operating. There's no terrific need for them, but because there is some deterioration in the solar array over a long period of time, it might be desirable to get those back in operation and, of course, it would add additional power for a longer mission. So they will take a whack with a hammer at that CBRM during the morning EVA on Tuesday. This is Skylab Control; we'll remain live for air-to-ground which we expect to hear in approximately 2 minutes from the Ascension tracking station. Remaining up for air-to-ground, Skylab Control at 36 minutes and 50 seconds after the hour.

END OF TAPE

SL-II MC1134/1
Time: 14:36 CDT, 24:19:36 GMT
6/17/73

CC Skylab, Houston, we're LOS at Ascension for the next 6 minutes. We have good data and if it's convenient to you, sometime during this pass we'd like to do this reg adjust. What we'd like on REG 1 ADJUST we'd like it 30 degrees, 30 degrees clockwise. On REG 2 we'd like 20 degrees clockwise, and the end in result of this probably will just about zero the meters for transferred current to the ATM. That's REG 1 30 degrees clockwise, REG 2, 20 clockwise.

SC Okay, I'll go up and do that, Dick. And I got a question for you on this general message regarding changes to the M509 Checklist. Is the next crew bringing up a new checklist for 509? If they are, then why are we making these changes to our checklist?

CC Roger, stand by and I'll get an answer.

SC And Dick, we'll put those EREP questions on B channel.

CC Okay, very good. Thank you.

SC And of the three evening questions, number 3 was the waste management compartment H2O dispenser clogged on the inlet or outlet side of the valve. We can't determine that by looking at the valves. And we're bringing the valves back.

CC Okay, we copied and thank you much.

SC And I'll let the good doctor answer questions 1 and 2 for you when he gets ready. He's cleaning up right now.

CC Okay.

SC Well, it's about 30 degrees on Bus 1 and 20 on Bus 2, which didn't quite make zero on the transfer, Dick.

CC Roger, stand by just a second.

CC PIT, Houston. We're happy with the REG adjust you made. Incidentally, on this EGIL tells me that the reason - what we're doing here is we're incrementally - incrementally changing the load sharing so we'll end up probably with one more REG adjust in preparation for the unmanned phase, and this is allowing us to look at the system with these different load sharing points for a day or so in between steps.

SC Yeah, okay. Thank you, glad to do it.

CC Roger.

CC Skylab, Houston. We're about 45 seconds from LOS. We're going to see you at - at Guam at 20:23. And in answer to your question about M509; we've run into some test problems in Denver with the batteries which I'm not sure whether or not you have been made aware of and what we think this message does is change your checklist so that we - you can do the M509 checkout that we're asking you to do without

making an interface to the onboard M509 batteries. The other half of the question about the SL3 and 4 crew, is they will be carrying up their own checklist. But we think that the checklist changes we're asking you to do are one time only, and they will support the checkout we're asking you to do. Over.

SC Okay. Thank you, sir.

CC Roger.

SC I don't have to make it to the cue card then, just to the checklist to support this checkout.

CC That's affirmative, Paul.

SC Okay.

PAO Skylab Control, at 19 hours 46 minutes and 48 seconds Greenwich mean time. We've lost signal now at the Ascension tracking station, and we do not expect to hear from the crew again until the Guam pass which is 36 minutes and 22 seconds from now. As was indicated earlier, at the Vanguard station Pilot, Paul Weitz completed his body mass measurement device filming. That's TV scenelist number 5. He has approximately - According to communication management display here in Mission Control, there are approximately 13 minutes on the video tape recorder and those will be dumped dur the overnight period for return here to Houston. That body mass measurement dis - device was - is the one that's used to keep track of the approximate weights of the crew, measuring mass rather than weight because of course, they have no gravity there and gravity is an element that's required to gain weight. So the television was completed. They are now in the presleep activities which include eating dinner and a number of oth things. And we do not expect to hear from them again until Guam. This is Skylab Control, at 47 minutes and 54 seconds at - Oh, let me remind you too that there is a change-of-shift briefing. We have an estimate now of the time. Flight Director Milt Windler, who is still working on EVA preparation pads for the crew - expects to be free at approximately 3:15. That's a very rough time, still at approximately 3:15 there will be a change of shift briefing in the building 1 small briefing room. This is Skylab Control at 48 minutes and 22 seconds after the hour.

END OF TAPE

SL-II MC-1135/1
Time: 15:21 CDT, 24:20:21 GMT
6/17/73

PAO Skylab Control at 20 hours 21 minutes and 34 seconds Greenwich mean time. At the present time we're approaching the Guam tracking station. About 1 minute and 40 seconds from acquisition of signal at Guam. We will remain live at this point from air-to-ground. We have not yet gotten an announcement of the change-of-shift briefing. Changed but we do believe it will be approximately 3:30 and Flight Director Milton Windler still engaged in planning procedures for the Flight Plan for the next couple of days. So we have slipped that at 3:30 and we'll give you an announcement when Flight Director Milton Windler leaves the mission control center. We'll remain live at this point for air-to-ground from Guam.

CC Skylab, Houston. AOS, Guam for 4 minutes.

SC Roger.

SC Still with us, Houston?

CC Yes, sir.

SC I'm going to give you the food ADR. The CDR ate everything plus ten optional salts, plus 2 butter cookies. SPT ate everything, plus 1 butter cookie. The PLT ate everything, plus 7 optional salts.

CC Okay.

SC And the film for Day 168 is 16 millimeters in S073, retract at FT1 C1. 13 48 percent CI10. Next one is M131 OGIMF, M092/171 and the film was shot up. CI12, 00, CI05. 35 millimeter CI31, 03, CI30, 67. 70 millimeter, CX06 103, no EREP.

CC Roger, Pete. And we're 1 minute from LOS. We're going to see you at Vanguard at 21:01. And anything left in the Evening Status Report that you don't get down here, we'll catch at Vanguard.

SC Okay. A1 is transporter 02 and in CI12 00, CI05. Transporter 03 in A2. And that is CI06 18, CI03. Transporter 06 in A3, CI13 48, CI10. And A4 is 05 with nothing, and CI11 for takeup. Floating, 07 CI09 66 white tag 03. Over.

CC Okay. Real fine, we got all that. We're about 10 seconds from LOS and we'll see you at the Vanguard.

SC See you at Vanguard.

PAO Skylab Control at 20 hours 28 minutes and 49 seconds Greenwich mean time. We have now lost signal from the Guam tracking station. We expect to acquire the spacecraft again within communication range of the Vanguard tracking ship in 31 minutes and 49 seconds. That was an unexpected status report from the crew of Skylab II. They normally would not give a status report this early in the evening, and for that reason they may be asked to repeat it later.

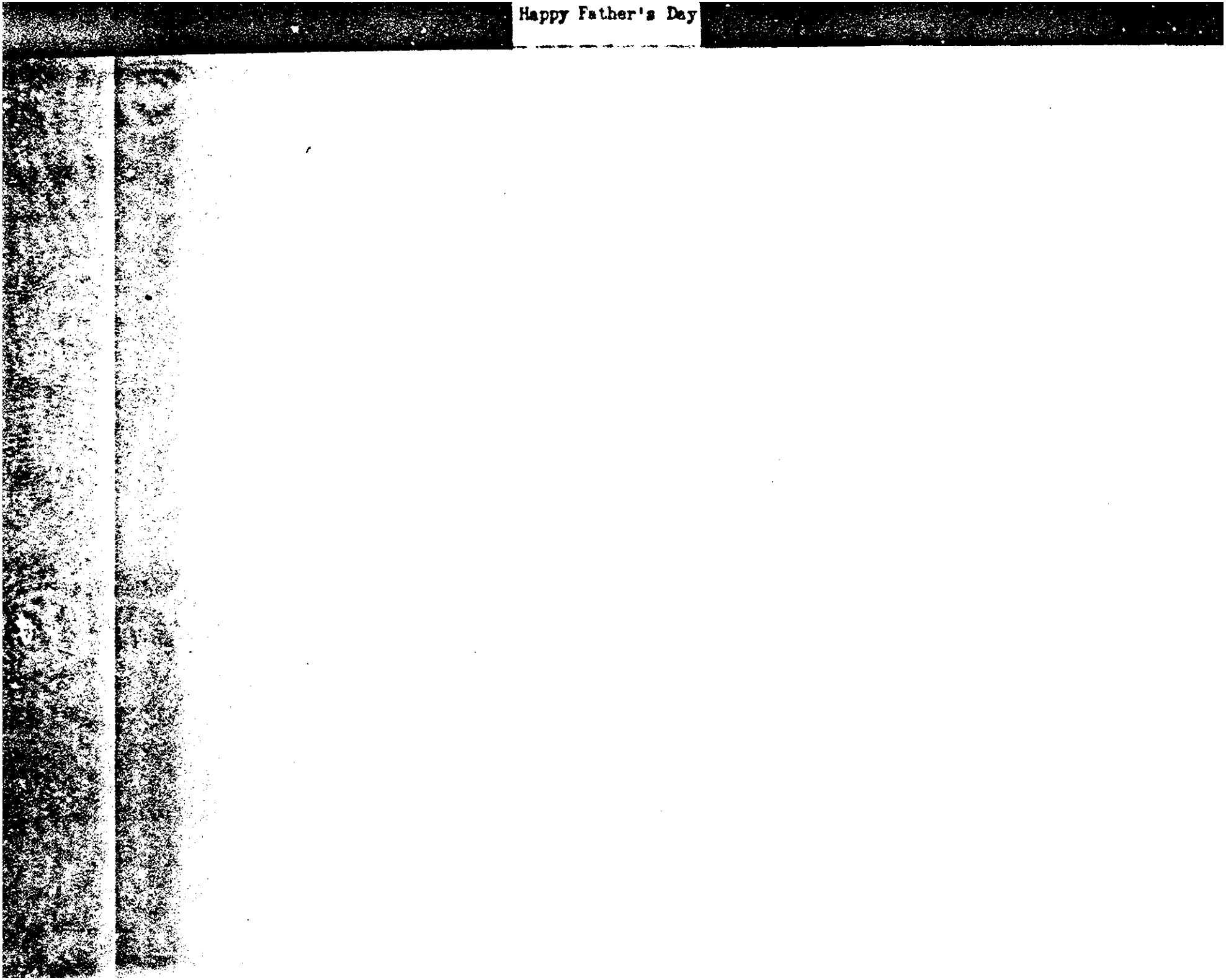
It's possible that some members of the ground team were not prepared for the status report. During the coming pass we expect that, at Ascension, this is following the Vanguard pass, we will have a conversation between Pete Conrad and his wife and children here on Father's Day. And that will come at Ascension at approximately 4:14 p.m. Central Daylight Time or 21:14 Greenwich mean time. At the beginning of the Ascension pass, at the beginning of the next revolution following 493 which is the revolution we're now in the process of completing. Following the Ascension pass we do not have an acquisition of signal again until Guam at which time there will be a private medical conference. We expect that the conversation between Pete Conrad and his wife and children will be on the open air-to-ground. They do have a right to private conversations, but Commander Conrad had indicated earlier that he does not desire private conversation. So we will have a conversation at Ascension with the wife and children and then a conversation, private medical conference at Guam tracking station on the pass immediately following Ascension. This is Skylab Control, 30 minutes and 20 seconds to acquisition and 30 minutes and 34 seconds after the hour.

END OF TAPE

SL-II MC1136/1
TimeL 15:34 CDT, 24:20:34 GMT
6/17/73

PAO Skylab Control, at 20 hours 34 minutes and 26 seconds Greenwich mean time. At this time flight director, offgoing flight director, Milt Windler has finally left the Mission Control Room and we believe he is enroute to Building 1 for a press conference which should begin in approximately 3 to 5 minutes. This is Skylab Control at 34 minutes and 45 seconds after the hour.

END OF TAPE


Happy Father's Day

SL-II MC-1137/1
Time: 15:59 CDT 24/20:59 GMT
6/17/73

PAO Skylab Control at 20 hours 59 minutes and 6 seconds. We can now hear the warbler announcing acquisition of signal at Vanguard in the next minute and 40 seconds. And we will stay live for air to ground from Vanguard.

CC Skylab, Houston. AOS Vanguard for 11 minutes.

PLT Eleven, we must be going right over them huh?

CC Just about, that's right. I got a couple of notes here. One is we show that the star tracker was unlocked, the star is still Achernar, and outer gimbal to get a reacquisition, which we'd appreciate is plus 2125.

PLT Okay, plus 21 and a quarter. CDR is on the way, he needs a break.

CC Okay. And when CDR has a chance, we got everything, we listened to the tape of his evening status report at the last pass. And we need clarification of one item which is 35 millimeter frame quantity. The one we're interested in is Charlie India 30. We read it as 67, and we're wondering if that should be 57 or if not what? We need a clarification Charlie India 30.

CDR Yeah, it's 67. We've been getting up to 70 frames out of some of those.

CC Okay, understand. Thank you much.

CDR Did you say 2125 plus?

CC That's affirmative, plus 2125.

CDR So far it (garble). It's still plus 345 or so on the inner gimbal.

CC That's affirm, I didn't read you that one because esco said it didn't change, but it is plus 0345.

CDR It ain't there.

CC Roger. Stand by just a second please, I'll get right back to you.

CC CDR, Houston. When you went through plus 1900, 1900 on the outer gimbal we saw a real flesh of a star presence. So, why don't you try that, plus 1900 outer gimbal.

CDR Very good, that got it.

CC Thank you Pete. Thank you very much.

CDR Saved by the bell.

CC Skylab, Houston. We're going to command up some rate gyro drift compensations and we need the DAS.

CDR You got it.

CC Roger.

CDR (Garble) are you guys through with the DAS?

CC Negative, we're not. Stand by please.

CDR Oh, okay. There's no problem.

CC Roger.

CC Skylab Houston, we're through with the DAS, it's yours again.

PLT It's been ours all the time, Houston, but we just let you use it.

CC Roger.

CC Skylab, Houston. For the SPT, up at the ATM. We noticed this morning that the fine Sun sensor bias switch on the panel under attitude control was put to out. And we prefer the switch to be in since it makes our calculations for uplinking the pointing coordinates to you a little bit easier. And so we'd like the fine Sun sensor bias to in unless you put it out for some good reason that we don't know about. And if you do, if you'll just let us know, we'll make our planning accordingly.

SPT We'll put it in. I put it out to do the two left coalignment and forgot to put it back in.

CC Okay, no problem. Thank you.

CC Skylab, Houston, we're about 30 seconds from LOS. We're going to see you at Ascension at 21:14. And Skylab, for the CDR, the family will be on the line at Ascension. I will give you an AOS call, and they will be upstairs, but it won't be a private line. But, I'll give you an AOS call, and then just let you have the rest of that pass. Out.

CDR Thank you.

PAO Skylab Control at 21 hours 12 minutes and 12 seconds Greenwich mean time. We've lost signal at the Vanguard tracking ship, and we expect to acquire signal again at Ascension in about a minute and 47 seconds. At that time, we should hear spacecraft communicator, Dick Truly call the crew. He indicated just now, that he will give them an acquisition signal call indicating that we have communications with them. And at that time we will hear Mrs. Conrad, who is located in an upstairs room in the Mission Control Center. We will hear Mrs. Conrad and children talk to the Captain. This is Skylab Control, we will remain live for air to ground at Ascension at approximately 1 minute and 17 seconds.

END OF TAPE

PAO Skylab Control. We're having troubles with our communications network, and that's the reason we've had no discussion.

CC Skylab, Houston. We're AOS at Ascension for the next 8 minutes. We're having a little antenna problem. How do you read?

SC Loud and clear.

CC Roger. Pete, I'il turn the rest of the pass over to Rusty and the Conrads who are upstairs. The next pass is Guam at 21:58 and it's - that's the medical conference. And I'll just be standing by the rest of the pass.

SC Okay.

MRS. CONRAD Hi.

CDR Happy Anniversary.

MRS. CONRAD Happy Anniversary to you and thank you for the red roses. You must have been thinking ahead?

CDR Huh?

MRS. CONRAD I said, "You were thinking ahead. You sent me 20 red roses."

CDR I know, but I wasn't thinking that far ahead. I ordered them from here by secret communicator.

MRS CONRAD Oh, I see. (Laughter) Well, anyway, thank you. And here are the boys.

CDR Guys.

ANDREW Hi, Dad.

CDR Who's that? Andrew?

ANDREW Yeah, Chrissy is out at the ranch. Peter and Thomas are here.

CDR Andy?

ANDREW Yes, sir.

CDR How's it going? Did y'all race any time this month?

ANDREW Uh, Thomas did, but I didn't. My bike - I need new points.

CDR I see. I'll be back soon, and I'll fix it.

ANDREW Okay. Here's Tom.

THOMAS Dad.

CDR Go ahead.

THOMAS I raced 2 weeks ago. I raced Chrissy's bike and my bike. Didn't do nothing; just got tired out.

CDR I see. Ran out at Clover?

THOMAS Yes, sir.

CDR When did y'all come back from the ranch?

THOMAS Two days ago. I got my driver's license while we were in Uvalde.

CDR Very good. Congratulations. How about Peter? Is he down there?

THOMAS — Yes. Here he is, just a second.
PETER — How you doing, Dad?
CDR — Fine. I thought maybe you'd be at Uvalde.
PETER — No, I think I ought to stay around and see if I can earn a little money.
THOMAS — Well, (garble) got stuck out at the ranch for 3 days with us, so I don't think Peter's going to stay out there too much more.
CDR — I see.
BOYS — Happy Father's Day.
CDR — Say again.
BOYS — Happy Father's Day.
CDR — Thank you. Where's Chrissy?
PETER — He's out at the ranch.
CDR — Oh, he's at the ranch. I see. How's his horse?
PETER — Pretty good, I guess. He rides it every day.
CDR — Very good. Did they get the pool fixed?
ANDREW — Yeah, it looks real nice, the (garble) worked real good and hadn't had to vacuum it in 2-1/2 weeks. It looks real, real good, water's real clear.
CDR — Great. That's good. I'm sure you've used it. What's the weather been like?
ANDREW — Well, it flooded down here a couple of days ago. Boattown, you know, the motorcycle place was all under water and we weren't here, but it also flooded down at the ranch.
MRS. CONRAD — Both the rivers -
MRS. CONRAD — Both the rivers came down and we were stuck out there for 4 days.
CDR — Well, that wasn't too bad, was it?
MRS. CONRAD — No, wasn't bad at all, it was fun.
CDR — If you think you've seen some big thunder storms around there, you ought to see some of the ones we've out here in the Pacific.
MRS. CONRAD — Well, the day we had the floods was the day you were photographing all those clouds, I guess, I forget what day, when it was, one day last week.
CDR — I remember that, that was one of our last EREPs, He told us you had real bad rain.
MRS CONRAD — Somebody say something.
PETER — Dad, It's Peter. I got my report card the other day.
CDR — How'd you do?
PETER — Passed everything. (garble)
CDR — Very good. Did you get promoted?
PETER — No, I'll get promoted next time.

SL-2 MC-1138/3
Time: 16:13 CDT, 24:21:13 GMT
6/17/73

CDR When do you have to go back for football?
PETER I don't know, they said they'd send me a letter, but I don't, I think they want me to play both ways next year and I think I might test them a little bit how much they want me to play football?
CDR Okay. Well, I think we're getting to the last phases. We start our EVA prep tomorrow night, for the EVA.
MRS. CONRAD Are you going to bed awful early, now?
CDR Yeah, we go to bed in another hour and a half.
MRS. CONRAD And then you get up at 2 o'clock the morning of splashdown?
CDR Uh, let me figure it out, right now we're going to get up at 2 o'clock in the morning and we get up even earlier than that on splashdown. That's why we've moved the bedtime up.
ANDREW Dad, how long after you splash - -

END OF TAPE

CDR Got up at 2 o'clock in the morning and we're going to get up even earlier down on the splashdown. That's why we moved the bed time up.

CHILDREN Dad, how long after you splash down are you going be back in Houston, where we can see you?

CDR Two days.

CHILDREN That's good. How about - How long after that do you get out of quarentine?

CDR Well, I think I can come home then. I can't see you guys until the end of 7 days. So that'll be 5 days.

CHILDREN Okay. When are you coming to Bermuda?

CDR Ah - Well, I don't know. I haven't seen the schedule, but hope I'll be going the 20th.

CHILDREN Okay.

MRS. CONRAD I wrote down about three things I was going to ask you, and I can't remember any of them, because I forgot to bring my list with - -

CDR Well, it probably wasn't too important.

MRS. CONRAD No, I don't think it was (laughter).

CDR I don't think I've lost too much weight, but our legs have all gotten skinney.

MRS. CONRAD Well, you'll have to do some swimming or some jogging or something when you come home.

CDR No, Joe, thinks it's all fluid and it'll come right back.

MRS. CONRAD Rusty said they never were the best looking legs. (laughter).

CDR No, but they're the only super small ones up here right now.

MRS. CONRAD The only super what?

CDR Small ones up here right now.

CHILDREN When are you going to be able to race your Vega when you get back?

CDR Oh, not until after you guys go back to school.

CHILDREN Hey, dad.

CDR Go ahead.

CHILDREN I'm a bigger grown up now. I want you to know.

MRS. CONRAD Governor Dolf Brisco just signed the bill that 18 year olds are of age now.

CDR Good. We'll start charging him rent.

MRS. CONRAD (Laughter).

PLT Congratulations.

MRS. CONRAD Well, we have another minute, but what'll we say? (Laughter).

CHILDREN Hey, dad, have you all had another play-day since the movie we saw?

CDR Say, again, Thomas. You broke off.

THOMAS Have you had another play-day since we saw that movie where you all were floating around and everything?

CDR No.

MRS. CONRAD Are you not going to take any days off again, now? You're too busy?

CDR Oh, right, no. We don't have any. Tomorrow night we start EVA prep and the next day is EVA and after that is two days of deactivation.

MRS. CONRAD Is Paul going to get the film or who's going to go after it?

CDR I'm going to get the film. Paul's going to work in my place in the SAS, and I'm going to go get the film and Joe's going to stay in.

CHILDREN How is it like, sleeping up there? Has your back been bothering you?

CDR Nope. Been sleeping pretty good.

MRS. CONRAD Have you been dreaming?

CDR Nope.

MRS. CONRAD Have you sure? Have you had your head wired, ever?

CDR No, just Joe. And it turns out he gets the same amount of sleep or partial sleep as he's been getting on the ground. So it's about the same, I guess.

CDR You still there?

MRS. CONRAD Yeah. We're still here. We have about 30 seconds.

CDR They said they had antenna problems, and I thought maybe you dropped out.

MRS. CONRAD Okay. Well, we'll see you in a week. Right?

CDR Okay. Be good. Bye.

MRS. CONRAD Okay. Bye bye.

CHILDREN Have a lot of fun.

CDR All righty.

PAO Skylab Control at 21 hours 25 minutes. We have lost signal at Ascension and we'll come up shortly to give you a brief resume of the conversation.

END OF TAPE

SL-II MC-1140/1
Time: 16:27 CDT, 24:21:27 GMT
6/17/73

PAO Skylab Control at 21 hours 27 minutes and 54 seconds Greenwich mean time. During that last pass at Ascension we did have some trouble with an antenna on the ground. Ground tracking station was not getting the proper reception for the first couple of minutes of the pass. That problem was solved, however, and we did have good signal for the remainder of the pass. Conversation was held on the open wire between Captain Pete Conrad, the Commander of the Skylab crew, and his wife and three children, Andrew, Tom, and Peter. Another boy was at - Crissy was at the ranch. The ranch is - the ranch belonged to Mrs. Conrad's parents at Uvalde, Texas. Uvalde. They have been out there vacationing during the period when we had rather heavy rains in the Houston area, and they indicated that they had been cut off for a period of time by flooding waters in the rivers around there, but no problem at the ranch at all. They've returned from Uvalde and they're back here in Houston, and were talking from the third floor of the Mission Control Center. Commander Conrad indicated that he would be the astronaut going out to get the film - participating in the EVA on Tuesday morning, with Paul Weitz, the Pilot. Joe Kerwin will stay inside - at one point he was asked if he was having trouble sleeping with a - with his head wired, and he did reply that he did not have his head wired during the period - Joe Kerwin, the Science Pilot, is the only one of the three crewmen who is required to wear any sort of monitoring device. He wears the M133 sleep monitoring helmet, which is a device with electrodes in it that record his sleep state. But Kerwin is the only one of the three crewmen who is required to wear that. There is no particular reason to wear one except to monitor sleep state, and that is an experiment being tested on the Science Pilot alone. We have some additional details on the EVA. Although we still do not have definite times. Most of the procedures in the extravehicular activity to be performed Tuesday morning will follow those listed in the flight plan. The indication is now that the CBRM will be the first activity - one of the early activities that will be done before the film exchange. That's a tapping operation to see if they can't get that charger battery regulator module back in operation. That's charger battery regulator module number 15. They will do that before the film exchange. Captain Conrad indicated, although we had believed earlier that possibly Paul Weitz would be doing the work that, he, himself will - the Captain will go out and retrieve the film. The TV camera operations are not yet definite. Skylab Commander indicated that he would possibly be interested in doing some television, but we've not yet gotten any details on whether that will be done inside or

outside the spacecraft. Either one of those two possibilities is available. We also have no definite information on the patch of material that is being considered now for deployment. Before the return, during the EVA, they've considered placing a small piece of that dermal reflective material that's being used in the parasol that was developed here at Johnson Space Center. They are thinking of putting a small piece out and attaching it someplace on the spacecraft to study thermal effects on that over a long period of time, so it could be easily recovered. Right now that is still being considered. It is not a definite part of the plan, and it may be dropped from the EVA plan during the next day or two. That pretty much concludes the information we have available right now on the EVA. Most of this is still on an early planning stage and probably during the remainder of the night we'll get some more definite ides on exact times for the EVA, and we'll undoubtedly bring that information up in the morning after 2:00 a.m. when the crew wakes up. During our next pass we have 26 minutes and 27 seconds to our acquisiton of signal at Guam tracking station in the Pacific, and at that time we expect a private medical conference to be in progress. Should that private medical conference be concluded early in the pass, as it has been on the previous two days, we will hear a acquisition of signal call from Dick Truly, the spacecraft communicator here in Mission Control, and we may have some live air-to-ground at that point. So, at 25 minutes before the next acquisition of signal, and sometime longer than that before we hear from the crew again, this is Skylab Control, 32 minutes and 31 seconds after the hour.

END OF TAPE

TAO Skylab Control at 21 hours 57 minutes and 47 seconds Greenwich mean time. We're coming up on acquisition of signal at Guam tracking station. This pass is reserved for a private medical conference. However, should that medical conference be shorter than the full time of the pass, we will hear some discussion between Spacecraft Communicroro Dick Truly and the crew of the first Skylab manned mission. We will stay live for air to ground should there be some later in the pass.

CDR Hello Houston, you there?

CC Skylab, Houston. Hello again, we're at Guam for 7 minutes.

PLT I wish you would have that Adam guys take a look at the 56, will you please. When we came up in the Sun light, the door talkback stayed white. I hit the switch to close one time, but no change. I then hit it to open one time, and there has been no change. And that's as far as it has gone, we're awaiting your word.

CC Roger that. And I'll get it to you as soon as we think about that one.

PLT Okay.

CC Skylab, Houston. Indications on the ground is of the same as yours, that the door is neither closed. And we're continuing to look at it and we'll get back to you.

PLT All right.

PLT I suspect that it is mostly closed Dick, because the both advetures on the Berilium and aluminum are both listed as poor.

CC Roger.

CC Skylab, Houston. About the S056 door, we've got a crew malfunction procedure in the ATM malf book, under X-ray Kelly, number 8 Bravo. And what we'd like you to do if you can, is after Building Block 1 is complete to go ahead and start into that malf and keep up with which books you go through. And let us know probably at the next station how you came out. We've got about 1 minute to LOS. The next pass is at Vanguard at 22:38.

PLT Okay, Richard.

CC Thank you.

PLT That leads me immediately to block 5, which says carry your appiture door dry system.

CC Roger. Stand by just 1 second.

PLT Okay, I go block 1, Block 4, Block 5.

CC Roger, PLT. Request that doors 11.

PLT Okay.

CC Roger. And we'll see you at Vanguard.

PLT Right.
PAO Skylab Control at 22 hours 9 minutes and 17 seconds Greenwich mean time. We have lost signal at the Guam tracking station. There was time after the crowded medical conference for air to ground from the Mission Control, and from the Spacecraft Communicator Dick Truly. We will next acquire signal from the spacecraft at the Vanguard tracking ship, that's in 28 minutes and 34 seconds. At 9 minutes and 42 seconds after the hour, this is Skylab Control.

END OF TAPE

SL-1I MC-1142/1
Time 11:35 CDT 24:22:35 GMT
6/12/73

PAO Skylab Control at 22 hours 35 minutes and 54 seconds Greenwich mean time. At the present time we're approaching acquisition of signal at Vanguard tracking station in about 2 minutes and 11 seconds. The crew's day is nearly complete at this point. During the presleep hours this afternoon, both Science Officer, Joseph Kerwin, and crewman Paul Weitz have taken turns at the solar instrument panel, directing the battery of telescopes and other scientific devices used to study the energy emitted from the Sun. After taking a turn at the telescope, Dr. Kerwin took a final set of photographs of the bacteria and spore experiment, ED31, which is being conducted to determine the effects of a weightless environment with 1/3 Earth's atmospheric pressure and more than 3 times the percentage of oxygen, on the survival, growth, and mutation of bacteria. This experiment, under the direction of Priniple Investigator Robert L. Staehle of Holly School in Rochester, New York, is one of several studies directed by high school students. After completing the photography today, that experiment and the equipment involved in it was stowed by Science Pilot Kerwin. Tonight the Science Pilot will be wearing the M133 sleep monitoring device that will keep track of his sleep states tonight and give immediate readings by telemetry here to medical officers on the ground. We have just received the surgeon's report, which indicates that Skylab Astronauts Conrad, Kerwin, and Weitz remain in vigorous good health and spirits, signed by Dr. Buchanan for Dr. Hawkins. This is Skylab Control remaining live for air to ground from Vanguard.

CC Skylab Houston. Vanguard for 9 minutes.

PLT Hey, are you ready for a status on the S056 door?

CC Go ahead.

PLT In the door procedure, I completed the first two blocks, which as I remember the first thing you do is inhibit both motors. And when I enabled the primary motor, the talkback, the door talkback immediately went to gray, and I had a ready light. And that's where I left it, and I tried to run it. Of course it didn't run very well. Inactive went (garble) wrong after that. But other than that hang up, it is functioning normally now. But the talkback immediately went to gray. Another door was sitting there all the way open and 99 and 44 open waiting for something to tell us - give us (garble) talkback.

CC Okay, Paul. Thank you much, and we'll think about that one.

heard a good-night from spacecraft communicator, Dick Truly, and do not expect to hear again from the crew. This is Skylab Control signing off at 16 minutes and 5 seconds after the hour, until 2:00 a.m. central daylight time.

END OF TAPE

SL-II MC-1143/7
Time: 17:57 CDT, 24:22:57 GMT
5/17/73

night's sleep.

CDR Roger. Night, night.

PAO Skylab Control at 23 hours 13 minutes Greenwich mean time. The spacecraft has lost signal at Madrid and is now out of communication for the next 35 minutes. We do not expect to hear again from the crew. They have been given a good-night call from capsule communicator, spacecraft communicator, Dick Truly. Tomorrow will be another busy day for the three members of Skylab's first crew, as they have now gone to bed. Both Commander, Pete Conrad and Science Pilot Dr. Joseph Kerwin will be subjects in a pair of medical experiments. The first, M092, measures the movement of body fluids from the legs to the upper body, as the result of elimination of gravity. The second, M171, studies the metabolism of crew members as they exercise vigorously on a special bicycle equiped with several medical sensors. This measures the total work done and the effect on the crew members. In addition to several hours of work at the control panel of the solar telescope and it's associated equipment, the crew will prepare for it's third excursion outside the spacecraft early Tuesday morning. Nearly two hours, 12:30 p.m. to 2:15 p.m central daylight time, are given to advance preparations for a two and a half hour extravehicular activity by Commander Conrad and Pilot Paul Weitz. Early tomorrow morning before most of us are awake, at 2:22 a.m. central daylight time, shortly after the crew awakens, a new record will be set for the longest manned mission in space. That record, 570 hours and 22 minutes, is now held by the Soviet Union's Soyuz 11 space station, which was in orbit in June of 1971, two years ago. We will surpass that record at 2:22 a.m. The spacecraft will be on ground track number three and it's 500th revolution above the Earth, and will be located approximately near the Congo in Africa. That will set a new record at 570 hours and 22 minutes. A record for the longest duration space mission. At this time the members of the Skylab crew have orbited the Earth a total of 400 and - over 400 revolutions above the Earth, and have traveled a total of 9,500,000 miles. There were calculating yesterday morning, the total amount of pay they would get if they were paid 12 cents a mile, as government members on travel and when they were told that it would total more than a million dollars, they indicated they were coming back. They thought that was enough. But Skylab crew will not be back until Friday morning. They will be splashing down approximately 8:50 a.m. central daylight time in a location 700 miles southwest of San Diego, California. At this time, the United States ship, Ticonderoga, an aircraft carrier, is on station. They're practicing for that splashdown. We have

PAO Skylab Control at 22 hours 57 minutes and 14 seconds Greenwich mean time. We are one minute and 16 seconds from acquisition of signal at the Canary Island tracking station. At this time we will stay alive for air-to-ground. We should have an explanation, I expect, of the S056 problem. That appears now to have been solved as we passed into darkness over at Vanguard. The crew indicated that they have completed the malfunction procedures, and discovered that they had, in fact, successfully opened the door of the S056 experiment. That's the X-ray telescope experiment, and then they were instructed to manually close that door. Apparently the motor fouled up or a reason that's not known here on the ground or by the crew, but that problem has not been solved and they are preparing for sleep. And we have 34 seconds to acquisition of signal at the Canary Island tracking station. We'll remain live for air-to-ground.

CC Skylab, Houston. We're AOS at Canary and Madrid for 12 minutes.

PLT (Garble)

CC Roger, and we're going to be - G&S is commanding here to set up the configuration for the rate gyros this evening. The gyro Y-1 is now looking real stable, so we're going to put Y-1 and Y-2 control - into control, so you ought to select Y-1/Y-2 for their proper onboard monitoring. And we're also showing the TACS ENABLED, and we think it probably ought to be inhibited per our earlier agreement about leaving TACS INHIBIT.

PLT Okay.

CC Roger.

CDR I'm trying to think when they got ENABLED. It should have been shut off for the last umpteen days.

CDR (garble) trim burn this morning and we never turned it back off. Thank you.

CC Roger.

CDR Say, what did that 9 seconds do for us anyhow? Is anybody around that can answer that?

CDR I figured they got all of a theth of a foot per second, (garble).

CC CDR, Houston, the very honest answer is that the FIDOs are at home, and we will give you a straight answer on the TRIM burn, and while we planned it that way, and how it came out tomorrow, if that's okay.

CDR Yeah, (garble) Sure.

CC Roger.

CC Skylab, Houston we're going LOS here in Madrid, and we'll see you guys in the morning. Have a good